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Flying Operations

**AIR FORCE AIRCRAFT DEMONSTRATIONS
(T-6)**

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This instruction implements policy guidance in AFD 11-2, *Flight Rules and Procedures*; and AFI 11-209, *Air Force Participation in Aerial Events*. It provides guidance and procedures for Air Force performance of specific model, design, series (MDS) single-ship aircraft demonstrations and mission capabilities demonstrations. It designates Air Education and Training Command as lead command for T-6 aircraft demonstrations. MAJCOMs, field operating agencies (FOAs), and direct reporting units (DRUs) may supplement this instruction. MAJCOMs, FOAs, and DRUs will coordinate their supplements with HQ Air Education and Training Command, Director of Operations, prior to publication and forward one copy to HQ USAF/XOOO after publication. See **Attachment 1** for a glossary of references and supporting information. Ensure that all records created by this AFI are maintained and disposed of IAW AFMAN 37-139, "Records Disposition Schedule."

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Chapter 1

OPERATIONAL PROCEDURES

1.1. Introduction. USAF uses single-ship aerial demonstration teams to exhibit the capabilities of modern high performance USAF aircraft and the degree of skill required to operate these aircraft. AETC is designated lead command and will establish standard criteria for single-ship aerial demonstrations of the T-6 aircraft. This instruction provides specific maneuvers, sequences, and parameters governing the execution of these demonstrations. Other MAJCOMs flying single-ship aerial demonstrations of these MDS aircraft will comply with this instruction. Policies and procedures for team management, selection, training, and scheduling will be in accordance with (IAW) applicable MAJCOM supplements. The directives listed in [Attachment 1](#) provide further policy or procedural guidance in the conduct of these events.

1.2. Terms Explained. Unless otherwise indicated, terms and definitions used in AFI 11-209, AFI 35-101 and this instruction are the same. The term "Abnormal Procedure" identifies the specific abort procedure for each maneuver.

1.3. Suspenses. Aerial demonstration requests should be received NLT Jan 31 of each year. The Demonstration Team Chief will coordinate with 19 AF/DOO for Demonstration Team and Texan Flight events.

1.4. Responsibilities

1.4.1. AETC/CC:

- 1.4.1.1. Provides policy for AETC's single-ship demonstration program IAW this publication.
- 1.4.1.2. Certifies first year single-ship demonstration pilots prior to the beginning their first air show season.

1.4.2. 19 AF/CC:

- 1.4.2.1. Provides supervisory direction over the single-ship demonstration program.
- 1.4.2.2. Provides supervisory direction over the Texan Flight program.
- 1.4.2.3. Approves the annual single-ship demonstration schedule and monthly updates, and the Texan Flight schedule.
- 1.4.2.4. Certifies demonstration pilots to perform Texan Flights (or his designated representative).
- 1.4.2.5. Approves the Civilian Texan Flight Pilot List.
- 1.4.2.6. Approves single-ship demonstration pilot prior to AETC/CC's certification for first-year demonstration pilots.

1.4.3. 19 AF/DO:

- 1.4.3.1. Coordinates all single-ship demonstrations and Texan Flights. Analyzes event sites for operational suitability, safety, recruiting value and availability of demonstration teams.
- 1.4.3.2. Develops the annual single-ship demonstration schedule, Texan Flight schedule and updates.

1.4.3.3. Performs annual review of AFI 11-246 Vol. 2 and unit single-ship demonstration training syllabi.

1.4.3.4. If applicable, develops OCONUS event schedule.

1.4.3.5. Approves Single-Ship Demonstration Team Support Manual.

1.4.3.6. Maintains the 19 AF/DO Aerial Demonstration Team Public Web site to include: current single-ship demonstration schedules, Air Demo support requirements and the scheduling process.

1.4.3.7. Coordinates initial AETC/CC certification of first year single-ship demonstration pilots IAW [Attachment 9](#).

1.4.4. AETC/DO:

1.4.4.1. Approves AETC Single-Ship Demonstration Team regulation. Approves single-ship demonstration upgrade syllabus and Texan Flight formation checkout procedures.

1.4.5. Wing commander or equivalent:

1.4.5.1. Selects Demonstration Pilot .

1.4.5.2. Selects rated narrator and rated ground safety observers.

1.4.5.3. Selects and trains remaining demonstration team personnel IAW this instruction.

1.4.5.4. Annotates pre-certification in demonstration pilot's grade book.

1.4.5.5. Forwards the upgrading demonstration pilot's grade-book IAW this AFI for 19 AF/CC approval.

1.4.5.6. Annotates re-certification in demonstration pilot grade-book for second and subsequent year demonstration pilots.

1.4.5.7. Completes and submits an Annual Preseason Team Assessment to AETC/CC NLT 1 March, or prior to first air show, IAW [Attachment 5](#).

1.4.5.8. Provides 19 AF/CC a ground video and cockpit playback of a practice performance for WG/CC re-certified pilots.

1.4.5.9. Provides the demonstration team's annual budget to support a minimum of 30 shows per season. Funding is described in paragraph [1.19](#).

1.4.6. OG/CC or equivalent:

1.4.6.1. Provides command oversight of the demonstration team.

1.4.6.2. Produces demonstration and Texan Flight upgrade syllabus.

1.4.6.3. Coordinates with 19 AF/DOO or MAJCOM designee on single-ship demonstration schedule.

1.4.6.4. Requests relief from 19 AF/DOO or MAJCOM designee if it is determined that an event should not be supported (for safety, OPSTEMPO, funding, etc.).

1.4.6.5. Ensures the cockpit playback of every practice and demonstration (IAW [Attachment 6](#)) is reviewed by WG/CC, WG/CV, OG/CC, or OG/CC-designated representative. This does not include practices conducted in MOA airspace with a minimum of a 5000' AGL floor. E-mail the completed grade sheet to 19 AF/DO (cc 19 AF/DOK) within five calendar days of each home

training event/demonstration or within five calendar days after returning to home station after deployed demonstrations.

1.4.6.6. Attend at least one off-station show during the demonstration season.

1.4.7. Demonstration Team:

1.4.7.1. Prepares waiver recommendations for 19 AF/CC approval.

1.4.7.2. Coordinates demonstration team availability with 19 AF/DOO.

1.4.7.3. Coordinates demo team support requirements with event Point of Contact.

1.4.7.4. Provides event sponsors with the Single-Ship Demonstration Team Support Manual to assist them with the necessary preparations.

1.4.7.5. Maintains demonstration team certification documentation.

1.4.7.6. Cancels any demonstration when the assigned performance location compromises safety or exceeds aircraft performance capabilities.

1.4.7.7. Maintains training records, score sheets, and all demonstration video tapes IAW AFMAN 37-139 disposition schedules.

1.4.8. Demonstration pilot:

1.4.8.1. For off-station sites, accomplish either a practice demonstration or aerial survey (IAW [Attachment 7](#)) at the air show site prior to air show demonstration.

1.4.8.2. Is the mission commander and OIC for the demonstration team.

1.4.8.3. Flies instructional sorties as required to maintain IP currencies.

1.4.8.4. Coordinates with GLO and ground safety officer prior and during all aerial events.

1.4.8.5. Cancels any demonstration when the assigned performance location compromises safety or exceeds aircraft performance capabilities.

1.4.8.6. Coordinates with local Air Force recruiter team's availability and ability to support local Air Force recruiting efforts.

1.4.9. Individual Responsibilities:

1.4.9.1. Each officer assigned to the AETC Single-Ship Demonstration Team must fully understand the solemn trust and special obligation that accompanies a position on the demonstration team. Individual behavior, bearing and appearance shapes not only the team image but also public image of the USAF. First among the team's many responsibilities is the safety of demonstration audiences. There can be no aspect of any team member's life style or daily conduct that would in any way impair the team's performance or jeopardize public safety. Each member must be at the peak of physical and mental capabilities for all demonstration team activities. In addition, given the continuous rigor of the demonstration team schedule, each member must be able to sustain this mental and physical capability level over an extended period of time. The key to this sustained performance is the establishment of a personal daily regimen to include regular eating, hydration, adequate sleeping and proper exercise habits which will minimize the adverse effects of continuous travel, cultural/dietary differences, and time zone changes.

1.4.9.2. In view of the special obligations incumbent upon each member of the team, whether performing in the air or providing ground support, each member of the team will adhere to the following policies: In no case will the provisions of AFI 11-401 concerning the consumption of alcoholic beverages be violated. Additionally, alcoholic beverages will not be consumed within 12 hours of takeoff the following day. For cross country flights not involving aerobatic maneuvers, the provisions of AFI 11-401 and 19 AFI 11-207 apply. Although the provisions of this policy do not quantify the maximum amount of alcohol permitted to be consumed, the intent, in concert with a daily regimen and peak daily mental and physical capability, mandates the individual responsibility and moderation with the fullest recognition of the next day's duties and obligations.

1.4.9.3. Lifestyle and daily activities, on and off duty, will be governed by the need to minimize personal risk and totally avoid any display of reckless behavior. Activities that could result in personal injury or jeopardize availability for team activities are inappropriate for team members. Although each demonstration team activity deserves special attention, those involving demanding flight operations unique to the air demonstration mission, specifically aerobatic maneuvers, whether practice or official demonstration, are the most critical.

1.4.10. Ground Safety Observers and Narrators:

1.4.10.1. Ground Safety Observers will monitor all demonstrations and practices conducted below 2,000 feet AGL.

1.4.10.2. Ground Safety Observers will review and grade the ground video and cockpit playback of every practice and demonstration with the assistance of the demonstration pilot (IAW [Attachment 6](#)).

1.4.10.3. Ground Safety Observers and Demonstration Team Narrators will be current and rated in the T-6 and fly sorties as required to maintain IP and other currencies.

1.5. Requests and Approval.

1.5.1. Civilian locations requesting an aerial demonstration must submit the appropriate request to the Office of the Secretary of Air Force for Public Affairs (SAF/PA). SAF/PA notifies applicable MAJCOM of events that are eligible for consideration.

1.5.2. Air Force units may submit a request directly to 19 AF/DOO for consideration.

1.5.3. Requests from other services should be submitted, through command channels, to 19 AF/DOO in accordance with applicable directives.

1.6. Scheduling and Policies. The demonstration season normally begins in March and extends through November. The following policies guide development of the monthly aerial demonstration schedule. Waivers to these policies require 19 AF/CC approval.

1.6.1. Schedulers will use the following priority list to schedule support for air shows and open houses and other aerial events.

1.6.1.1. Priority One

1.6.1.1.1. Civilian air shows.

1.6.1.2. Priority Two

1.6.1.2.1. Military air show and Open House.

1.6.1.3. **Priority Three**

1.6.1.3.1. Civilian Special Events (i.e. for Texan Flights).

1.6.1.4. **Priority Four**

1.6.1.4.1. Military Special Events (i.e. for Texan Flights).

1.6.1.5. The following factors may influence the level of support provided to an aerial event.

1.6.1.5.1. No other DoD demonstrations.

1.6.1.5.2. Other single-ship demonstrations (USN, USMC, Canadian)

1.6.1.5.3. Blue Angels (provide a USAF presence)

1.6.1.5.4. Thunderbird participation.

1.6.1.5.5. Previously planned support cancelled (Thunderbirds, single-ship demonstrations, static displays, flyovers).

1.6.1.5.6. Not supported previously/when last supported.

1.6.1.5.7. Previous air show success value.

1.6.1.5.8. Airfield suitability (positive/negative).

1.6.1.5.9. Limit number of events in same metropolitan areas.

1.7. Show Lines. Show lines will be maintained IAW AFI 11-209 and FAA restrictions. Aerial demonstrations should be flown referencing a clearly defined show line. Show lines may include runways, taxiways, roads, or specially constructed artificial show lines (school buses, boats or barges, snow fences, etc).

1.8. Altitudes. Altitudes are determined by appropriate FAA waivers and altitudes set forth for each maneuver as specified in Chapter three. Minimum altitudes will vary from show to show depending upon that show's specific waivers.

1.9. Weather Requirements. Weather criteria for the high show are a ceiling of at least 4,500 feet and 5 miles visibility and a discernible horizon. The low show ceiling is at least 3,000 feet and 5 miles visibility. Maneuvers will be planned to maintain VMC throughout the show sequence. Texan Flights require at least a 1,500' ceiling and 3 miles visibility.

1.10. Air Show Sponsor Responsibility. The sponsor will meet all requirements contained in the AETC Single-Ship Demonstration Team Support Manual. Failure to comply with the support manual could result in cancellation of the aerial demonstration. The Support Manual/Contract is provided to each scheduled show location by the individual demo team via their website, normal mail, email, or fax. The demonstration team will provide an internet link to the AETC Aerial Demonstration Team website.

1.10.1. Air Show Sponsors will provide airspace time for the Demonstration Team to either accomplish a practice demonstration and/or aerial site survey.

1.11. Reporting.

1.11.1. A Demonstration Team member will transmit via phone, fax, or email a post-demonstration report to the command post after each day's scheduled demonstration. RCS: HAF-XOO(AR)0212, continue reporting during emergency conditions, delayed precedence. Submit data requirements as prescribe, but may be delayed to allow the submission of higher precedence reports. As a minimum it will include:

- Weather (if a factor)
- Show profile
- Estimated crowd count
- Unusual occurrences/remarks
- Number of Texan Flights and pilot(s) name/aircraft
- Last minute changes/additions to Texan Flights (Include name and aircraft type)

Any report with an unusual occurrence or area with an unsat rating from [Attachment 2](#), requires an immediate detailed email or fax.

1.11.2. End of Show Summaries and Critiques: Submit to 19 AF/DOO no later than two days after each show IAW the format in [Attachment 2](#).

1.11.3. Within seven days of the event completion, fill out AETC Form 53 *Aerial Events After Action Report* and return to 19 AF/DOO.

1.12. Recommended Changes.

1.12.1. The demonstration flight sequence and maneuvers will not be altered, except as described in the profile. Any proposed changes must be forwarded through 19 AF/DOO, 19 AF/CC and approved by AETC/CC.

1.12.2. Recommendations for changes to this instruction should be submitted directly to 19 AF/DO through 19 AF/DOK by AF Form 847.

1.13. Demonstration Performance Reviews/Grade Sheets.

1.13.1. Every demonstration flight involving aerobatics of any kind conducted below 2,000 feet AGL will be videotaped. AETC/CC or DO may request a video tape or cockpit playback for review at any time during the air show season. Demonstration teams will maintain tapes for a minimum of two years.

1.13.2. The pilot and ground safety observer will evaluate each demonstration (both practice and actual) using the cockpit playback ([Attachment 6](#)). Each maneuver will be scored using a scale of 0 to 5 and combined to compute an overall show score of 0 to 5. Any maneuver performed outside of established parameters will receive a zero (0) score. Wing reviewers will comment on any maneuvers scored zero (0). The average score for a typical air show is 3. The goal is a direct and meaningful evaluation of each maneuver which can serve as a debriefing tool, identify any adverse trends, and as a

cumulative record of how each maneuver was flown, depending on pilot skills, relative pilot air show proficiency (experience), and weather conditions. The goal is not to provide perfect scores to make the pilots feel good, nor should a score of 1 or 0 be automatically considered marginal/unsatisfactory unless the manner in which the maneuver was performed was dangerous or created a safety of flight situation.

1.13.3. The pilot and ground safety observer will assign a score between 0 and 5 to the overall performance with respect to showmanship using the following factors:

- Maneuver alignment
- Smoothness
- Precision
- Airmanship
- Judgment
- Profile parameters

1.14. Proficiency Requirements.

1.14.1. To maintain currency, each pilot will fly a minimum of one demonstration (practice or actual) every 15 calendar days. A practice session or actual demonstration should be scheduled at least once per week during the air show season. If the 15 calendar day currency is exceeded, the next demonstration will be limited to no lower than 1,000 feet AGL minimum on all maneuvers, and the Operations Group Commander or their designated representative must be present.

1.14.2. High show practice demonstrations may terminate with a transition to maneuvers which are unique to the low show. The pilot may transition to the low show maneuvers before the Tactical Pitch-up to Land.

1.14.3. All practices below 2,000 feet AGL will be monitored by a qualified ground safety observer. The safety observer will:

1.14.3.1. Complete safety observer training and documentation in accordance with this instruction.

1.14.3.2. Maintain two-way radio communication with the demo pilot. If communication is lost, the demonstration will transition to a floor of 2,000 feet AGL or be terminated.

1.14.3.3. Monitor the site for potential hazards (e.g., birds, unscheduled aircraft, weather).

1.14.3.4. Critique each maneuver and note needed improvements in the performance. However, in no case should critiquing take precedence over monitoring the safe accomplishment of maneuvers.

1.14.4. Every demonstration practice flight involving aerobatics of any kind conducted below 2,000 feet AGL and all actual demonstrations will be videotaped. Each aerobatic flight will be debriefed using these video tapes.

1.14.5. Practices involving aerobatics flown below 2,000 feet AGL or actual demonstrations will be terminated when:

1.14.5.1. The safety observer is unable to monitor the safe performance of maneuvers.

1.14.5.2. Two-way radio communication is lost between the demo pilot and safety observer.

1.14.5.3. Videotaping capability is lost.

1.14.5.4. Any time when in the judgment of the pilot or safety observer the safety of the pilot or spectators is compromised.

1.15. Transition During Performance. Each performance should be planned to fly a complete high or low show profile. However, conditions such as scattered clouds in the show area may require the demonstration pilot to transition between the high show and low show profiles at certain transition points.

1.15.1. Abort procedures will be practiced at least once per month.

1.16. Altimeter Procedures. It is essential that each demonstration pilot be able to quickly and accurately assess actual altitude above the ground during any maneuver in the demonstration. To avoid the mental exercise required to subtract an odd-numbered field elevation from the MSL altimeter reading to get above ground altitude, one of the two procedures described below will be used to "zero the altimeters" (QFE). These procedures will be used for all practices and actual demonstrations whether flown from takeoff at the show site or takeoff from a deployed location.

1.16.1. **Zero Altimeter Method** . Dial aircraft altimeter until indicator reads "0".

1.16.2. **Nearest 1,000 Feet Method** . The Ground Safety Officer is responsible for obtaining the current altimeter setting for the field elevation and the altimeter setting to zero the altimeter to the nearest 1,000 feet setting. Dial the altimeter to the most appropriate 1,000 feet corrected field elevation (500 round down, 501 round up).

1.17. Use of Teams for Static Display. Neither the primary demonstration aircraft or the spare aircraft will be used for static display purposes.

1.18. Disbursement of Demonstration Team Funds. AETC disburses funds to wings through the normal financial planning process. The Wing Commander will manage the demonstration funding as part of his overall financial planning process. All funding will work through the local wing FM/RA in contact with AETC/FM.

1.19. Texan Flight Procedures.

1.19.1. Event sponsors, through the AETC Demo Team, must make a Texan Flight request NLT 3 days prior to the event. Demo pilots may approve last minute civilian Texan Flight pilot changes at the air show site, providing the civilian pilot is attending the event as a flying participant. Demo pilots must ensure civilian pilots meet all requirements specified in this instruction prior to the flight and are on the AETC/DO list of approved civilian Texan Flight pilots.

1.19.2. Aircraft participating will only include AETC T-6 demo aircraft and approved USAF vintage aircraft.

1.19.3. Aircrew Qualifications include AETC single-ship demonstration pilots and civilian pilots on the 19 AF/CC approved Civilian Pilots List meeting the following qualifications:

1.19.3.1. 500 hours minimum time in USAF vintage aircraft or 300 hours minimum time in USAF vintage aircraft plus 2,000 hours minimum time (initial requirement)

1.19.3.2. Performed in a minimum of 10 air shows over the past two years (initial requirement)

1.19.3.3. Performed a minimum of two Texan Flights in the past year (currency). If this requirement is not met, then the pilot may be removed from the approved Civilian Pilots List IAW para [1.19.6.5](#). Prior to the first Texan Flight of the air show season, pilots must accomplish one practice Texan Flight. This practice flight may be accomplished at an air show site prior to the actual air show.

1.19.3.4. Current ICAS Level II Aerobatics card or FAA equivalent low-level card

1.19.3.5. Current ICAS or Experimental Aircraft Association (EAA) formation flight certificate (if not covered with the aerobatics card)

1.19.3.6. Commercial Pilot Certificate

1.19.3.7. Current Class II Medical Certificate

1.19.3.8. Aircraft in current annual inspection

1.19.3.9. Signed, on file with Air Force, Certificate of Insurance DD Form 2400

1.19.3.10. Signed, on file with Air Force, Civil Landing Permit DD Form 2401

1.19.3.11. Signed, on file with Air Force, Hold Harmless Agreement DD Form 2402

1.19.3.12. Exceptions to the above qualifications may be approved by AETC/DO on a case-by-case basis.

1.19.3.13. Civilian pilots must adhere to all applicable FAA regulations. Any deviations may result in removal from the approved Civilian Pilots List IAW para [1.19.6.5](#).

1.19.4. Formation Restrictions include the following:

1.19.4.1. Four-ship maximum in fingertip or route formation. A practice four-ship formation Texan Flight must be accomplished at the show site prior to the air show.

1.19.4.2. A maximum of three passes with no formation aerobatics or capabilities demonstrations. Aerobatics may be performed after the formation has split.

1.19.4.3. A two-ship formation "Cross-over" break may be performed with vintage aircraft in the lead. The AETC demo pilot will: ensure no less than 50 feet nose-tail horizontal separation, ensure no less than 25 feet vertical separation, and call the "break".

1.19.4.4. In-flight photography of Texan Flights requires 19 AF/CC approval.

1.19.4.5. A thorough safety briefing will be conducted prior to flights.

1.19.4.6. AETC demo aircraft will not use flaps while in formation for Texan Flights.

1.19.5. All participating aircraft must have compatible communications equipment and maintain continuous radio contact on a common formation frequency. All AETC demo aircraft will have dedicated VHF radios for "Texan Flight" operations.

1.19.6. Preseason Training:

1.19.6.1. Prior to performing a Texan Flight demonstration, new demonstration pilots will train with a pilot from the approved Civilian Pilots List. Training will include both ground training and dissimilar formation checkout flights. For the purpose of professional pilot development, AETC Demonstration Team members are authorized flights offered by: civilian Texan Flight pilots, as well as National Demonstration Teams (Thunderbirds, Blue Angels, Snow Birds, Red Arrows, Golden Knights, etc.), and recognized International Council of Air Shows (ICAS) Aerobatic Competency Evaluators (ACE) and Inspectors. These flights will not impact team deployments, performances, or redeployments. Training is not vintage pilot specific but rather vintage aircraft specific. Once a demonstration pilot has completed training with a particular type of vintage aircraft, they may fly in Texan Flights with that type of aircraft as long as the vintage pilot is on the Civilian Pilots List. Separate training is required and will be documented in the Demonstration Pilot's grade book for each type of vintage aircraft.

1.19.6.2. Prior to the air show season, the lead civilian Texan Flight pilot will recommend any additions to the civilian pilots list to the 19 AF/CC. Recommendations will be based on the need for additional civilian pilots. New civilian pilots will train with AETC demonstration teams. Training will include both ground training and dissimilar formation checkout flights. 19 AF/CC is the approval authority for additions to the Civilian Pilots List.

1.19.6.3. Prior to each Texan Flight, a briefing will include all items covered in the Texan Dissimilar Formation Flight Formation Briefing Guide ([Attachment 8](#)). All Texan Flights will be debriefed.

1.19.6.4. If weather and scheduling permit, fly a practice flight on-site at each air show location prior to performing before an audience. This is a mandatory requirement for a four-ship formation flight.

1.19.6.5. 19 AF/CC may remove individuals from the approved Civilian Pilots List if circumstances arise that compromise safety or the image of the United States Air Force. In this case, individuals will be informed in writing of AETC's decision and under what circumstances, if any, they may be re-established into the Texan Flight program.

Chapter 2

DEMONSTRATION PILOT SELECTION AND TRAINING

2.1. General. AETC has two single-ship aerial demonstration teams consisting of Randolph and Moody (proposed) - based T-6s.

2.1.1. A standard team includes two aircraft, one demonstration pilot, two narrators, two ground safety observers and two crew chiefs. Ground safety observers will not simultaneously perform narration duties. A deployed team consists of the demonstration pilot, one narrator, one ground safety observer, and two crew chiefs. Team members not deployed are back at the home station coordinating the next air show. Team selection should consider factors affecting assignment stability such as vulnerability for schools or overseas assignment.

2.2. Demonstration Pilot Selection. The demonstration pilot will be selected and approved at the following levels: selected by the OG/CC, approved by the WG/CC, approved by 19 AF/CC and certified by the AETC/CC. Demonstration pilots will have no non-flying additional duties during the air show season other than those related directly to the Demonstration Team. They will fly as required to maintain their currencies.

2.3. Narrator and Ground Safety Observer Selection.

2.3.1. The normal Narrator tour of duty is one year. The Narrator will be current and qualified in the T-6. If not deployed they will perform admin duties for the demonstration team and coordinate the next air show. The Narrator will fly as required to maintain currencies.

2.3.2. Pilots selected as Ground Safety Observers will be current and qualified in the T-6. When not deployed, observers will perform admin duties for the demonstration team and coordinate the next air show. Ground Safety Observers will fly as required to maintain currencies. Ground safety observers have no specified tour of duty.

2.3.3. Narrators may serve as Ground Safety Observers if approved by the OG/CC. Ground Safety Observers may narrate. At no time will a Narrator or Ground Safety Observer narrate and observe simultaneously during a practice or demonstration.

2.4. Training. Training will be accomplished according to the guidelines of this instruction. Each new demonstration pilot will receive extensive ground training from their predecessor or a currently qualified demonstration pilot. New demonstration pilots will be nominated to AETC/DO by WG/CC in August and enter training no later than September prior to the new pilot's first air show season. New demonstration pilots will attend a minimum of two air shows. If possible, the new pilot will fly with the experienced demonstration pilot in each practice demonstration.

2.4.1. The WG/CC may alter the training sequence and individual sorties, as necessary, to ensure proficiency and progress. Additional training sorties (TS) may be added as required.

2.4.2. Maneuvers will be performed as described in this AFI and adhere to restrictions in AFI 11-202 Volume 3 and AFI 11-209.

2.4.3. New demonstration pilots will receive flight training from a currently qualified demonstration pilot. Demonstration pilots will receive training in aircraft flight control limitations and performance

characteristics affecting the demonstration profile. Demonstration pilots will receive training on common conditions leading to aborts for each maneuver

2.4.4. All training will be accomplished in VMC. Each practice with a floor below 2,000 feet AGL, except TS-3 and TS-4, will be over a runway environment (no lower 500 feet AGL). Each demonstration pilot will demonstrate proficiency in the high and low show profiles.

2.4.5. Training will be documented in an official grade book and progress monitored by the Wing Commander. The Wing Commander, Vice Wing Commander, or Operations Group Commander will be present for, or review the cockpit playback of every training and demonstration flight. All training flights should be videotaped to the max extent possible. All demonstrations and any practices below 2,000' AGL will be videotaped.

2.4.6. Final Wing Commander review, pre/re-certification of the demonstration pilot, ground safety observer(s), and certification of narrator(s) will be documented by the Wing Commander and forwarded to AETC/CC. First-year pilots must accomplish at least one practice flight off home station prior to AETC/CC certification.

2.4.7. Demonstration team film crew will be thoroughly trained. Training should emphasize equipment operation, sound techniques to capture demonstration narration, and techniques to capture the ground environment in the field of view during low altitude maneuvers. Normally, a crew chief will double as a film crew. If there are two narrators or two safety observers available, one may serve as a film crew.

2.4.8. Demonstration pilots and ground safety observers will receive training for abort procedures. During upgrade training, upgrade pilots will practice an abort procedure at least once per sortie during missions TS-1 through TS-11.

2.5. Training Syllabus. (If there is no current demo pilot, see para [2.5.10.](#))

2.5.1. GT-1 (Ground Training: taught by current demo pilot):

- Standard Procedures
- Fuel Requirements
- Ground Ops
- Waivers
- Aircraft Handling Characteristics
- Safety Considerations
- Emergency/Abort Procedures
- Team Management
- Scheduling/team coordination
- Lessons Learned

2.5.2. GS-1 (Ground Simulator Training: taught by current demo pilot)

- Crosschecking parameters
- Communication procedures with ground safety observer
- Abort procedures
- Abort mechanics
- High-speed dive recoveries
- Slow-speed maneuvering
- Recognition and prevention of out-of-control situations
- Demonstration profile (high and low show)
- Emergency procedures

2.5.3. TS-1 (FCP: current demo pilot / RCP: upgrade pilot):

- Standard AETC Demonstration Profile – Low show
- Emergency and Maneuver Abort Procedures.

2.5.4. TS-2 (FCP: current demo pilot / RCP: upgrade pilot):

- Standard AETC Demonstration Profile – High show
- Emergency and Maneuver Abort Procedures.

2.5.5. TS-3 (FCP: upgrade pilot / RCP: current demo pilot):

- Standard AETC Demonstration Profile – Low show
- Accomplish above 5,000 feet AGL
- Emergency and Maneuver Abort Procedures.

2.5.6. TS-4 (FCP: upgrade pilot / RCP: current demo pilot):

- Standard AETC Demonstration Profile – High show
- Accomplish above 5,000 feet AGL
- Emergency/Maneuver Abort Procedures

2.5.7. TS-5 through TS-11 (FCP: upgrade pilot / RCP: current demo pilot):

Standard AETC Demonstration Profile (must accomplish both high and low show)

Accomplished over a runway, initial minimum altitude is 2,000 feet AGL

Step down from 2,000 feet AGL determined by currently qualified demonstration pilot monitoring the training program

2.5.8. TS-12 through TS-16 (Solo).

2.5.9. TS-17 (Solo). AETC/CC Certification

2.5.10. If there is no current and qualified demo pilot then the training will be modified as noted:

In lieu of a current and qualified demo pilot, an OG/CC selected T-6 IP will monitor training. The OG/CC representative will be a highly experienced T-6 IP or current T-6 Demo team safety observer. For continuity purposes, only one representative should be used throughout upgrade pilot's training.

GT-1 (Ground Training: taught by OG/CC representative):

Standard Procedures

Fuel Requirements

Ground Ops

Waivers

Aircraft Handling Characteristics

Safety Considerations

Emergency/Abort Procedures

Team Management

Scheduling/team coordination

Lessons Learned

GS-1 (Ground Simulator Training: taught by OG/CC representative)

Crosschecking parameters

Communication procedures with ground safety observer

Abort procedures

Abort mechanics

High-speed dive recoveries

Slow-speed maneuvering

Recognition and prevention of out-of-control situations

Demonstration profile (high and low show)

Emergency procedures

TS-1 (FCP: upgrade pilot / RCP: OG/CC representative):

Standard AETC Demonstration Profile – Low show

Emergency and Maneuver Abort Procedures.

Sortie conducted above 5,000' AGL

TS-2 (FCP: upgrade pilot / RCP: OG/CC representative):

Standard AETC Demonstration Profile – High show

Emergency and Maneuver Abort Procedures

Sortie conducted above 5,000' AGL

TS-3 (FCP: upgrade pilot / RCP: OG/CC representative):

Standard AETC Demonstration Profile – Low show

Accomplish above 2,000' AGL

Emergency and Maneuver Abort Procedures.

TS-4 (FCP: upgrade pilot / RCP: OG/CC representative):

Standard AETC Demonstration Profile – High show

Accomplish above 2,000' AGL

Emergency/Maneuver Abort Procedures

TS-5 through TS-11 (FCP: upgrade pilot / RCP: OG/CC representative):

Standard AETC Demonstration Profile (must accomplish one low show practice)

Accomplished over a runway environment, initial minimum altitude is 2,000 feet AGL

Step down from 2,000 feet AGL as determined by OG/CC representative monitoring the training program

TS-12 through TS-16 (Solo).

TS-17 (Solo). AETC/CC Certification

Chapter 3

T-6 DEMONSTRATION MANEUVERS

Section 3A—General Guidelines

3.1. General. The demonstration sequence is designed so each maneuver is always performed in the same direction with respect to the crowd line. As a result, the show is always oriented the same way from the spectators' point of view. The only exception to this is when wind direction and velocity make it advantageous to change the direction of the slow speed pass. In this case, the remaining maneuvers are flown in the opposite direction. Abnormal Procedures are written for each maneuver. If the entry conditions are not met for any maneuver, a wings-level pass will be flown and the pilot will reattempt the maneuver entry or transition to the next maneuver. The T-6 demonstration is flown at full power except when slowing to configure for the slow speed pass. Demo pilots will transmit altitude and airspeed when entering pull throughs and vertical climbs. The ground safety observer will monitor altitude and airspeed radio calls and direct an abort when parameter limits are not met.

3.1.1. **FAA Flight Restrictions :** Aviation event acrobatic maneuvers such as slow rolls, snap rolls, loops, Immelmans, Cuban Eights, spins, hammerhead turns, etc., may not be performed over congested areas or over spectators. Steep banked, level, climbing, or descending turns necessary during maneuvering between aerobatics are not considered to be aviation event acrobatic maneuvers.

3.2. Fuel Requirements. Each demonstration uses approximately 300 pounds of fuel. Optimum performance is obtained when fuel load is 500 pounds. The minimum fuel to start the demonstration is 500 pounds. If not landing at show site, include the leg fuel required to fly to destination. If performing the demonstration with more than 500 pounds of fuel, increased airspeed/entry altitude may be required to compensate for higher gross weights. Increase takeoff fuels as required for non-staged demonstrations and Texan Flights following demonstrations.

3.3. G-Limits. The target Gs for each maneuver are found in [Chapter 3](#). This does not preclude a momentary increase in G for safety considerations. At no time will the demonstration pilot intentionally exceed aircraft G limitations.

3.4. Airspace and Runway Requirements. Optimum airspace required for the T-6 is 4,500 feet AGL vertically and a four-mile radius from show center horizontally. The minimum dimensions of the aerobatic box are 4,000 feet long, 3,000 feet deep, and 2,500 feet AGL (low show) and up to 4,500 feet AGL (high show). Minimum runway length and width is 4,000 feet x 75 feet. Any aerobatics (Split S, Repositioning Turns, etc.) performed outside the aerobatic box need to be specifically waived/approved by the FAA.

3.5. Show Lines. IAW AFI 11-209, there must be a 1,500 foot show line. In most cases, the show line can be waived down to 1,200 foot by the FAA for most air shows. The show line can be waived further to 500 feet for wings level passes parallel to the show line.

3.6. T-6 Demonstration Profile.

TAKEOFF

SHOW ENTRY *

SPLIT S/SLICEBACK

FOUR-POINT ROLL

CUBAN 8 *

LEVEL 360

CLOVERLEAF

GEAR-DOWN PASS

DOUBLE AILERON ROLL

PHOTO/HIGH SPEED PASS

TACTICAL PITCH-UP TO LANDING

*** These two maneuvers cannot be flown during the low show.**

3.7. Repositioning Turn.

Figure 3.1. Repositioning Turn.

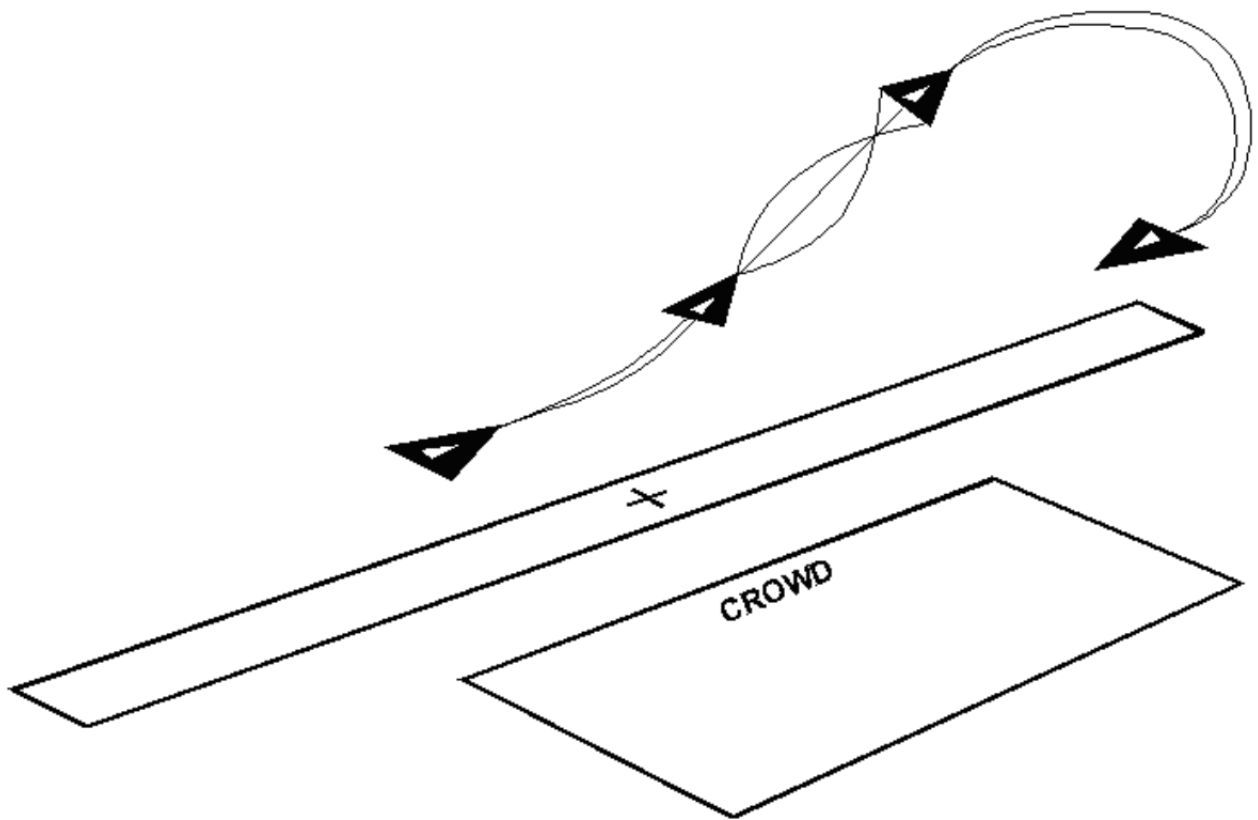


Table 3.1. Repositioning Turn Parameters.

TARGET PARAMETERS			
Altitude AGL	Airspeed KIAS	Power Setting	G
Entry 500'	200	MAX	4-5
Exit 500'	N/A	N/A	N/A

PARAMETER LIMITS				
Altitude AGL	Airspeed KIAS		Power Setting	G
Entry min 400'	120	N/A	MAX	7.0
Exit min 400'	N/A	N/A	N/A	N/A

3.7.1. Maneuver Description . The Repositioning Turn uses both horizontal and vertical turning room to change direction at each end of the show line. The vertical plane is used to maintain necessary proximity to the demonstration area. Each turn may differ slightly in order to meet entry TARGET PARAMETERS for the next maneuver and attain the proper show line alignment. To begin the maneuver, turn 15 to 45 degrees away from the crowd (depending on environmental conditions), roll-out, and pull to 25-45 degrees nose high, then unload. At 1,500 feet AGL, execute a 270-degree aileron roll opposite the show line (If weather is a factor, this maneuver can be accomplished at 1,150 feet AGL only if inside the acro box). Visually acquire the show line and make a descending turn to meet the entry TARGET PARAMETERS for the next maneuver.

3.7.2. Abnormal Procedure. If at anytime the minimum altitude, airspeed, or climb angles, cannot be achieved or maintained, roll the aircraft to the nearest horizon and recover to wings level flight.

3.8. Takeoff.

Figure 3.2. Takeoff.

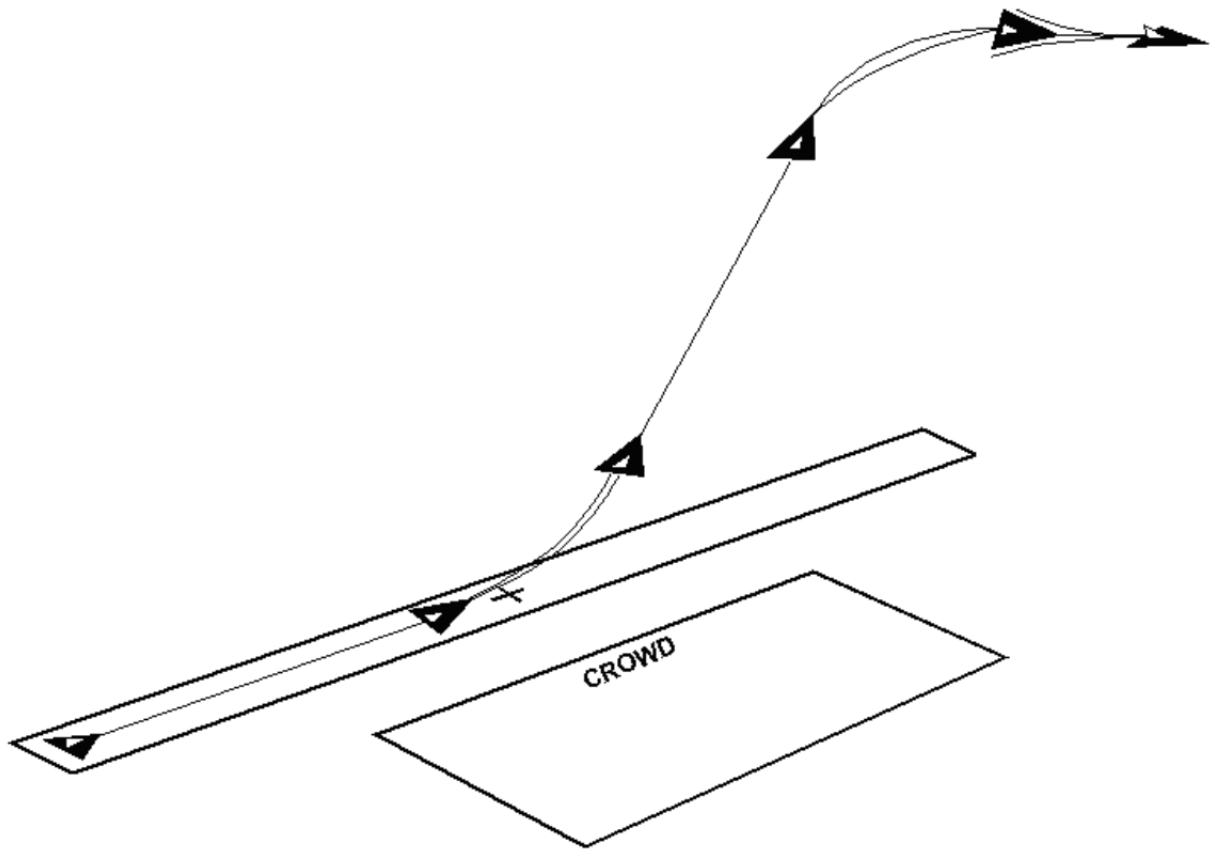


Table 3.2. Takeoff Parameters.

TARGET PARAMETERS				
Altitude AGL		Airspeed KIAS		Power Setting
Entry	30'	140		MAX
Exit	N/A	N/A		N/A

PARAMETER LIMITS				
Altitude AGL		Airspeed KIAS MIN/MAX		Power Setting
Entry	20'	100	N/A	MAX
Exit	N/A	N/A	N/A	N/A

3.8.1. **Maneuver Description.** Accomplish a normal takeoff with takeoff flaps. The rotation airspeed is 85 knots and should be accomplished using a smooth, continuous pull to obtain the normal takeoff attitude. Raise the gear with a positive rate of climb and retract the flaps once the gear is up. After gear and flap retraction, level off at 30 feet and accelerate to a minimum of 140 knots. At show center with a minimum of 140 knots, pull up 25 to 35 degrees nose high. Do not exceed stick shaker onset. Proceed to the designated holding airspace or fly a reposition maneuver to an air show entry.

3.8.2. **Abnormal Procedures .** Use caution when taking off from short runways, runways at high-pressure altitudes, or wet runways. During the climb out, if the aircraft stalls, enters stick shaker or the airspeed falls below 100 knots (whichever occurs first) unload and accelerate to break the stall and/or increase airspeed to a minimum of 100 knots. A climb to the holding airspace or a reposition maneuver (without the 270 degree roll under) can be accomplished.

3.9. Show Entry to Split S.

Figure 3.3. Show Entry to Split S.

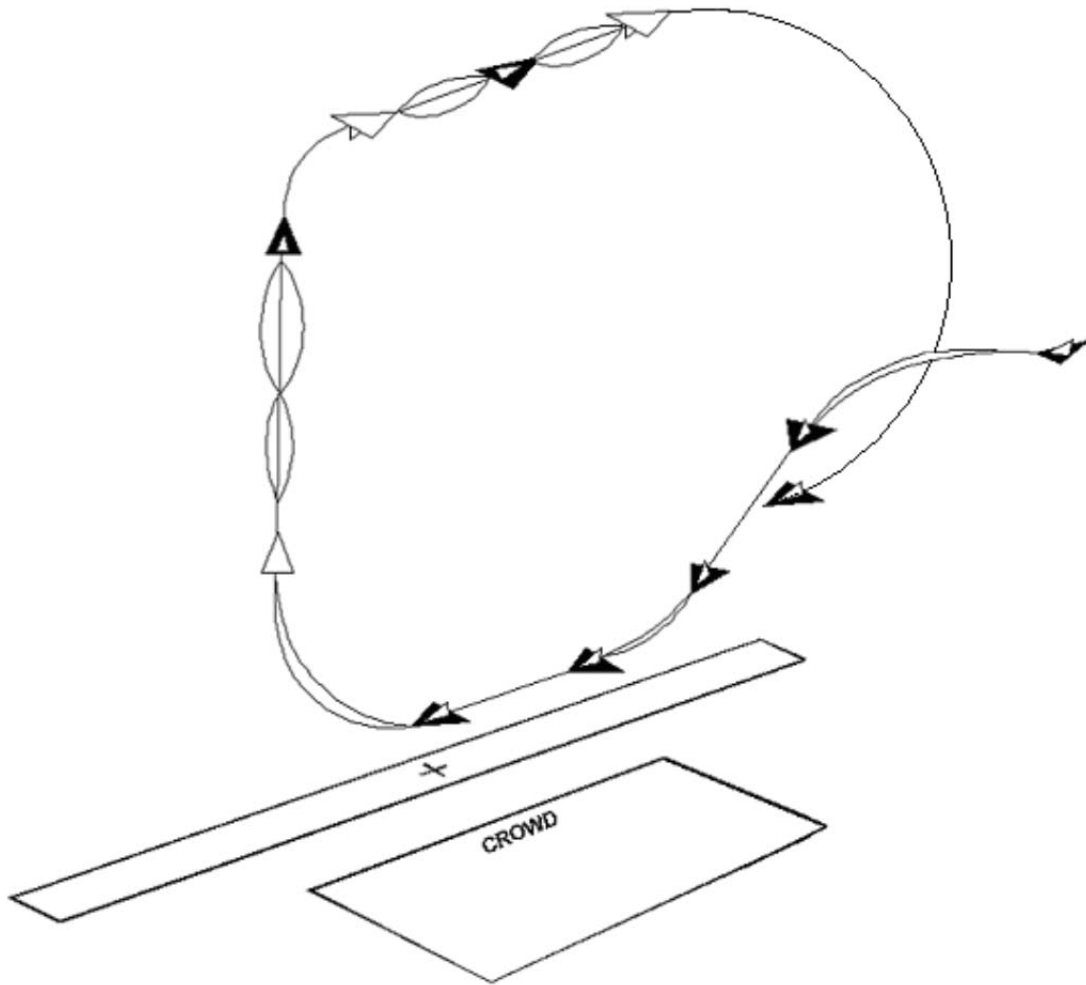


Table 3.3. Show Entry to Split S Parameters.

TARGET PARAMETERS			
Altitude AGL	Airspeed KIAS	Power Setting	G
Entry 500'	275	MAX	5.0
Exit 4,000'	110	MAX	1
Split S Entry 3,500'	140	MAX	4

PARAMETER LIMITS				
Altitude AGL	Airspeed KIAS MIN/MAX		Power Setting	G
Entry min 400'	260	AC LMT	MAX	7.0
Exit min 3,500'	80	AC LMT	MAX	N/A
Split S Entry min 3,000'	80	150	MAX	4 min - 7 max

3.9.1. **Maneuver Description.** Enter the show from the crowd's right and attain 275 knots (or greater if able) and 500 feet AGL. Once established on the show line and abeam show center, pull up to 90 degrees nose high using 5 Gs, unload, and execute a 180 or 360-degree roll (based on energy level at the maneuver entry). Once the roll is complete, pull the aircraft gently over onto its back then roll upright. Altitude should be at least 3,500 feet AGL. Minimum airspeed during this maneuver is 80 knots at the completion of the maneuver. A slight descent may be required to increase airspeed to 80 knots. Increase airspeed to approximately 140 knots and extend away from show center to allow turning room for the Split S. Roll the aircraft inverted and perform a Split S using MAX power and 3-4 Gs. Adjust G as required to level off at 500 feet AGL.

3.9.2. **Abnormal Procedure:** If at anytime during the maneuver it appears you will not gain the required altitude or have at least 80 knots at the completion of the maneuver, abort the maneuver by performing an unloaded roll to a wings-level position. If minimum parameters for the Split S are not met, abort the maneuver by performing a nose low recovery.

3.10. Four-Point Roll.

Figure 3.4. Four-Point Roll.

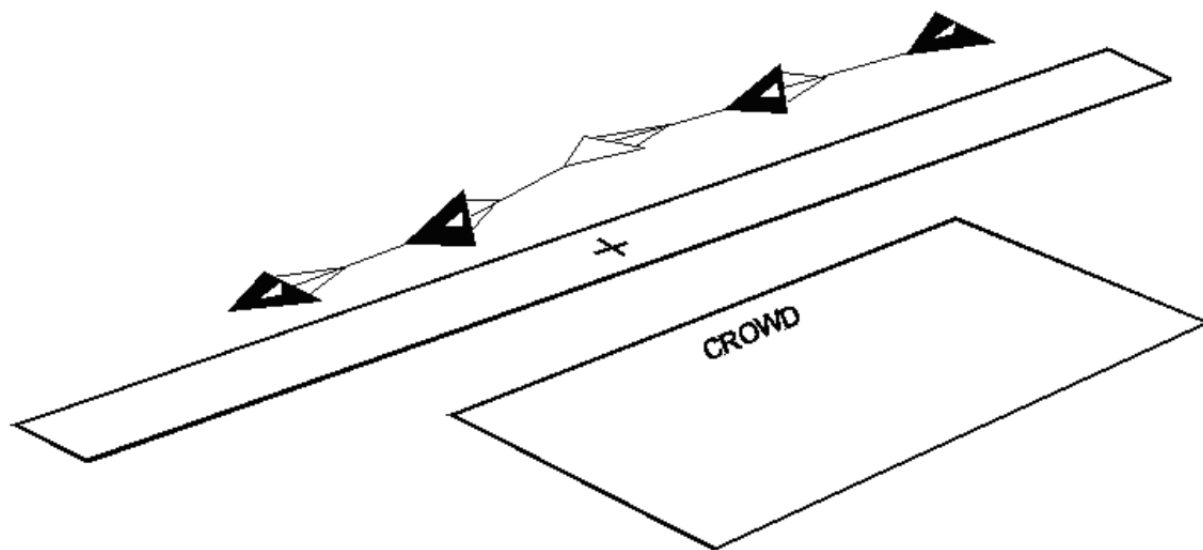


Table 3.4. Four-Point Roll Parameters.

TARGET PARAMETERS			
Altitude AGL	Airspeed KIAS	Power Setting	G
Entry 500'	260	MAX	+1 to -1
Exit 500'	260	MAX	1

PARAMETER LIMITS				
Altitude AGL	Airspeed KIAS MIN/MAX		Power Setting	G
Entry min 400'	220	AC LMT	MAX	N/A
Exit min 400'	220	AC LMT	MAX	N/A

3.10.1. **Maneuver Description** . Entry to the Four-Point Roll can either be initiated using a split S or sliceback maneuver from the perch point achieved after the Show Entry maneuver. A pull through of 4 to 5 Gs is initiated entering the split S or sliceback at 3,500 feet AGL to arrive on the show line at 500 feet AGL and 260 knots (altitude and airspeed will be transmitted to ground safety observer before pulling through during the sliceback or split S - max airspeed for the pull through is 160 knots). When 1,000 feet prior to show center, pull the nose 3 to 5 degrees nose high and unload. A cadence four-point roll to the left is then performed by pausing momentarily at the 90-degree, 180-degree, 270-degree, and 360-degree points. The pace of the cadence should ensure the aircraft is at the 180-degree point over show center. The 90-degree and 270-degree points require top rudder to maintain level flight and zero G to maintain the show line. The 180-degree point requires 1 negative G in order to maintain level flight. This is accomplished using the horizon, not the G meter. At the completion of the 4 Point Roll, begin the 360 degree level turn.

3.10.2. **Abnormal Procedure** . If at anytime during the 4 Point Roll, the nose falls more than five degrees below the horizon, abort by rolling towards the nearest horizon to a wings-level position, then continue down the show line. This would most likely occur during the 3rd point (270 degrees) due to a decrease in airspeed. This decrease in airspeed causes the rudder to be less effective and may cause the nose to drop below the horizon.

3.11. Level 360.

Figure 3.5. Level 360.

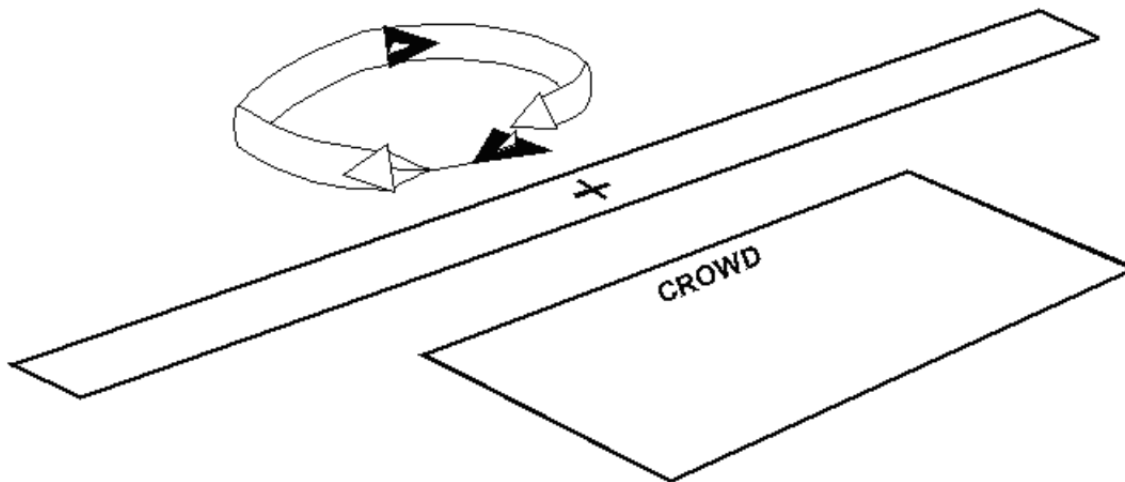


Table 3.5. Level 360 Parameters.

TARGET PARAMETERS			
Altitude AGL	Airspeed KIAS	Power Setting	G
Entry 500'	260	MAX	6
Exit 500'	200	MAX	6

PARAMETER LIMITS				
Altitude AGL	Airspeed KIAS MIN/MAX		Power Setting	G
Entry min 400'	200	N/A	MAX	4 min – 7 max
Exit min 400'	200	N/A	MAX	4 min – 7 max

3.11.1. **Maneuver Description** . After completing the Four Point Aileron Roll and approximately 1,000 feet past show center, turn away from the crowd using 80 to 90 degrees of bank. Begin the turn with a smooth G onset rate to maintain 6 Gs. G loading and airspeed bleed off rate will vary with density altitude and temperature. Maintain a minimum of 200 knots. The first 180 degrees of turn should be accomplished with a 1 1/2 degree nose up attitude and the last 180 should be accomplished with a 1 1/2 degree nose down attitude to make the turn look level to the crowd. Vary bank to ensure the maneuver is finished at or above the entry altitude. Surface winds must be taken into consideration in order to center this maneuver around show center. Continue the turn past 360 degrees as required (usually 15 to 30 additional degrees of turn depending on winds) in order to transition to the reposition maneuver used to set-up for the Cuban Eight or the Cloverleaf.

3.11.2. **Abnormal Procedures** . If during any portion of the maneuver it becomes apparent the aircraft will descend below 400 feet AGL, abort the maneuver by rolling wings-level and climb to 1,000 feet AGL.

3.12. Cuban Eight (High Show Only) (Note: Cuban Eight will not be performed over congested areas IAW FAA regulations).

Figure 3.6. Cuban Eight.

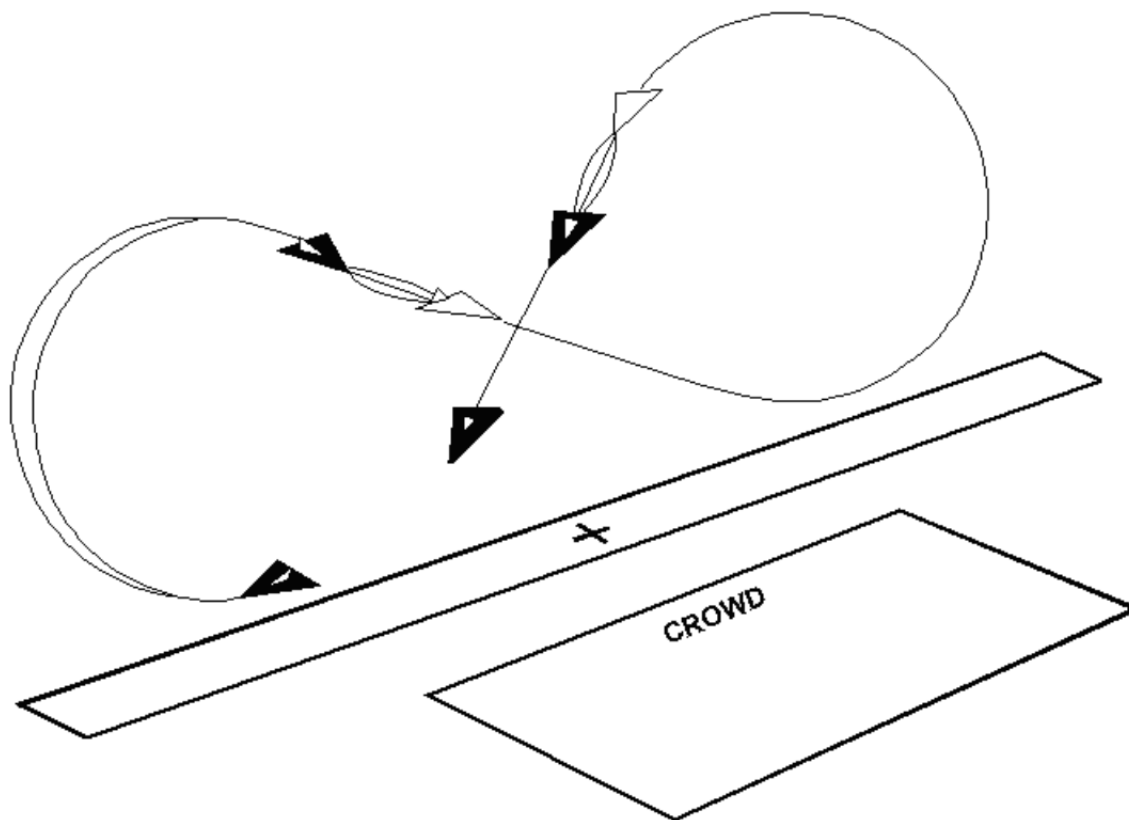


Table 3.6. Cuban Eight Parameters.

TARGET PARAMETERS			
Altitude AGL	Airspeed KIAS	Power Setting	G
Entry 500'	270	MAX	4
APEX 3,500'	120	MAX	A/R
Exit 500'	270	MAX	As required to level off at 600' AGL

PARAMETER LIMITS				
Altitude AGL	Airspeed KIAS MIN/MAX		Power Setting	G
Entry min 400'	230	AC LMT	MAX	4
APEX min 2,500'	100	AC LMT	MAX	N/A
Exit min 400'	NA	AC LMT	MAX	As required to level off at 500' AGL

3.12.1. Maneuver Description. Following the reposition, when wings-level and 500 feet AGL, attain sufficient airspeed (230 minimum) and begin a smooth wings level 4 G pull. Minimum apex altitude is 2,500 feet AGL with a minimum of 100 knots. Continue the pull until the aircraft is 45 degrees nose low inverted (55 degrees maximum – reference attitude indicator). Due to winds, it may be necessary to use more or less than 45 degrees nose low in order to maintain show center orientation. The typical range is between 30 to 55 degrees nose low. Do not exceed 55 degrees nose low. At 2,000 feet AGL, roll upright while maintaining 45 degrees nose low. At 1,200 feet AGL, begin a 4 G pull (or G as required) to level flight at 500 feet AGL. Normal apex altitude is 3,000 to 3,500 feet AGL depending upon environmental conditions. The second half is completed in the opposite direction with identical parameters as the first half of the maneuver. Following the Cuban Eight, transition to the Cloverleaf maneuver.

3.12.2. Abnormal Procedure . If at anytime during the maneuver it appears you will not attain the prescribed altitude or airspeed over the top, abort the maneuver by performing an unloaded roll to a wings-level position. Furthermore, if more than 45 degrees nose low inverted is required due to winds, add 100 feet for every degree steep to roll out and pull out altitudes. If more than 55 degrees nose low, roll out immediately and recover to level flight using a max performance pull.

3.13. Cloverleaf.

Figure 3.7. Cloverleaf.

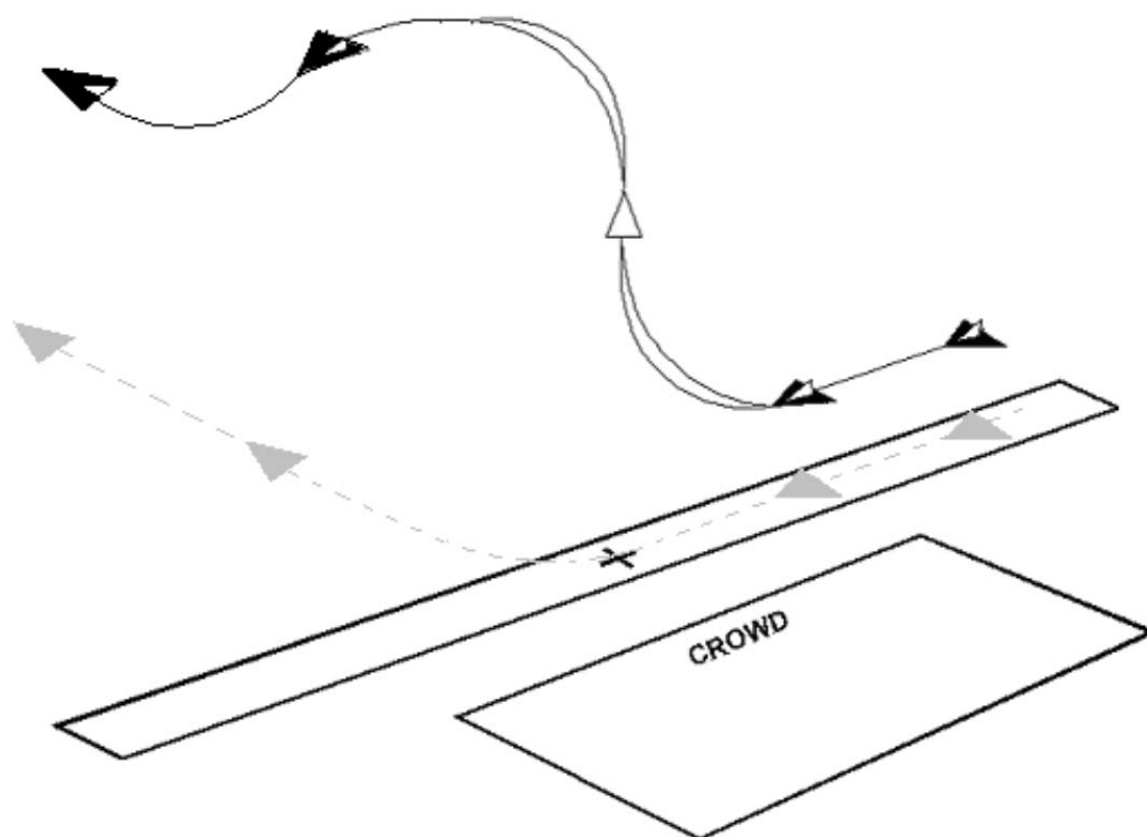


Table 3.7. Cloverleaf Parameters.

TARGET PARAMETERS				
Altitude AGL	Airspeed KIAS		Power Setting	G
Entry 500'	250		MAX	4 -5
APEX 2,500'	150		MAX	A/R
Exit 500'	250		MAX	A/R to level off at 500' AGL

PARAMETER LIMITS				
Altitude AGL	Airspeed KIAS MIN/MAX		Power Setting	G
Entry min 400'	230	AC LMT	MAX	7 MAX
APEX min 2,000'	120	AC LMT	MAX	A/R to level off at 500' AGL

3.13.1. **Maneuver Description** . Enter the show from the crowd's right or left as required and attain 250 knots (or greater if able) and 500 feet AGL. 1,000' from show center, pull up to approximately 45 degrees nose high using 4-5 Gs. Execute a 90 degree loaded roll away from the crowd line as you continue to climb to the top of the cloverleaf. Stop rolling at the 90 degree roll point. Continue pulling aft-stick until 30 degrees nose low (you will be inverted). Roll 90 degrees left or right as required to turn and enter a perch position for the Gear-Down Pass.

3.13.2. **Abnormal Procedures** . If at anytime during the maneuver it appears you will not attain the prescribed altitude or airspeed during maneuver entry or over the top, abort the maneuver by performing a slow speed, nose high recovery.

3.14. Gear-Down Pass (Direction of Landing).

Figure 3.8. Gear-Down Pass (Direction of Landing).

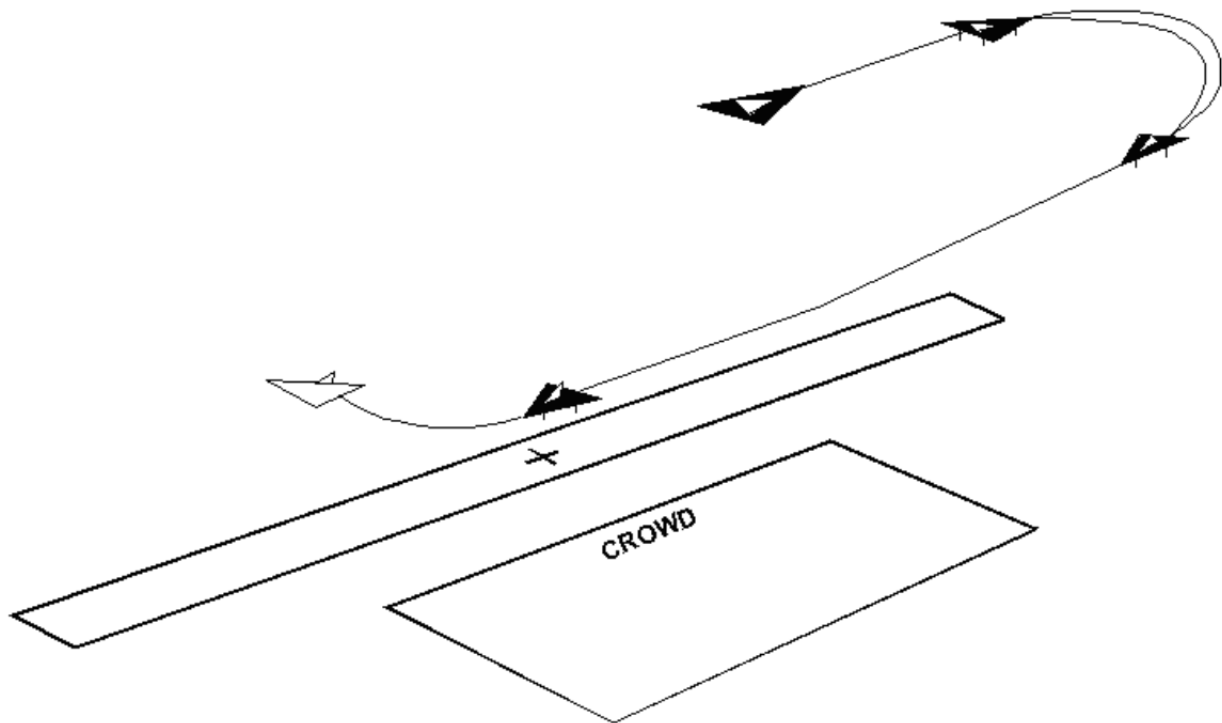


Table 3.8. Gear Down Pass Parameters.

TARGET PARAMETERS					
Altitude AGL		Airspeed KIAS		Power Setting	G
Entry	200'	100		A/R	1
Exit	200'	90		A/R	1

PARAMETER LIMITS					
Altitude AGL		Airspeed KIAS MIN/MAX		Power Setting	G
Entry	100'	80	150	A/R	N/A
Exit	100'	80	150	A/R	N/A

3.14.1. Maneuver Description. After completion of the Cloverleaf maneuver, initiate a turn toward the show centerline and begin slowing the aircraft below 150 knots. Upon reaching the base position for the show centerline and below 150 knots, configure the aircraft with gear, TO flaps and maintain 200 feet AGL. Continue slowing the aircraft to 100 knots (80 knots minimum) while flying down show centerline. AOA will be approximately 15 units. When passing the last of the crowd, select max power and smoothly raising the nose 25 degrees and initiate an 80 knot climb. While climbing, turn 30 to 45 degrees away from the crowd using 30 degrees of bank (45 degrees maximum). During this climbing turn, raise the gear and flaps. Do not exceed 2.5 Gs or 150 knots until the gear and flaps are raised.

3.14.2. Abnormal Procedure. If the minimum altitude or airspeed cannot be maintained, or the aircraft approaches a stall, abort the maneuver by selecting max power and setting the flaps to TO.

3.15. Double Aileron Roll.

Figure 3.9. Double Aileron Roll.

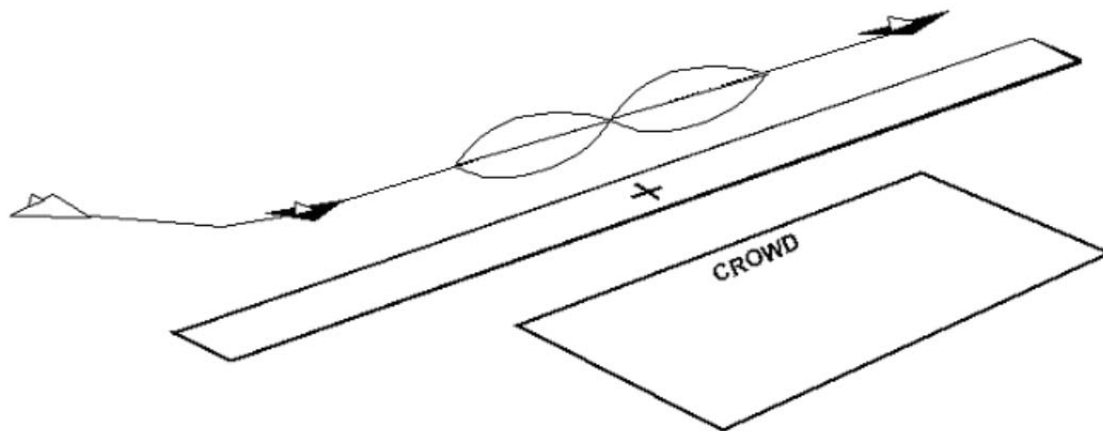


Table 3.9. Double Aileron Roll Parameters.

TARGET PARAMETERS				
Altitude AGL		Airspeed KIAS		Power Setting
Entry	500'	260		MAX
Exit	500'	260		MAX

PARAMETER LIMITS				
Altitude AGL		Airspeed KIAS MIN/MAX		Power Setting
Entry	min 400'	220	N/A	MAX
Exit	min 400'	220	N/A	MAX

3.15.1. **Maneuver Description.** Upon completion of the slow speed pass, turn 30 to 45 degrees away from the show centerline, and climb to 2,000 feet AGL (1,000 feet AGL minimum) using a climb of 15 to 25 degrees. Airspeed should be maintained between 100 to 150 knots (80 knots minimum). Upon reaching 2,000 feet AGL and approximately 1 mile from show center, accomplish a descending turn back to the show center. This is a gentle, energy gaining turn. At 2,000 feet prior to show center and 500' AGL, initiate a smooth 3 to 5 degree climb. As show center approaches, unload the aircraft to 0 G and execute two 360-degree aileron rolls in either direction (recommend a left roll due to the torque of the engine).

3.15.2. **Abnormal Procedure s.** Do not start this maneuver with the nose below the horizon. Do not descend below 400 feet AGL.

3.16. High Speed Reposition Maneuver.

Figure 3.10. High Speed Reposition Maneuver.

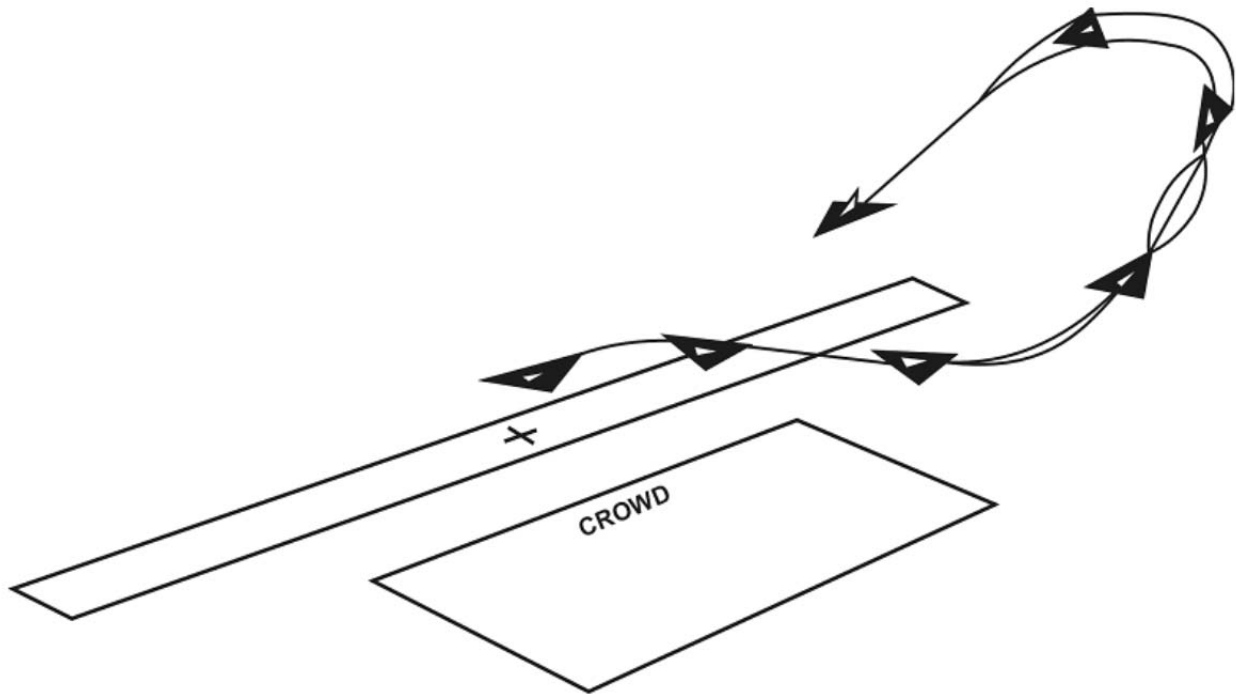


Table 3.10. High Speed Reposition Maneuver.

TARGET PARAMETERS			
Altitude AGL	Airspeed KIAS	Power Setting	G
Entry 500'	250	MAX	4 to 5
Exit 300'	275	MAX	1

PARAMETER LIMITS				
Altitude AGL	Airspeed KIAS MIN/MAX		Power Setting	G
Entry min 400'	220	AC LMT	MAX	7.0
Exit min 100'	220	AC LMT	MAX	7.0

3.16.1. **Maneuver Description.** Initiate an 80 to 90 degree banked turn to 45 degrees past the outer edges of the crowd line to arrive behind the crowd (imperative not to come any closer than 1,500 feet to the crowd). Once at the 45 degree turn point, initiate a 4 to 5 G pull to 45 degrees of climb (55 degrees maximum) and climb out 130 to 150 knots (130 knots minimum). At 2,000 feet AGL (or 1,000 feet AGL minimum for the low show), initiate a 45-degree dive (55 degrees maximum) back to the appropriate show line for the next maneuver. Exit from the High Speed Repositioning Maneuver by recovering from the dive at 1,200 feet AGL using 4 to 5 Gs to level off at 300 feet AGL.

3.16.2. **Abnormal Procedures.** If at anytime the minimum altitude, airspeed, or climb angles cannot be achieved or maintained, roll the aircraft to the nearest horizon and recover to wings level flight.

3.17. Photo/High Speed Pass.

Figure 3.11. Photo/High Speed Pass.

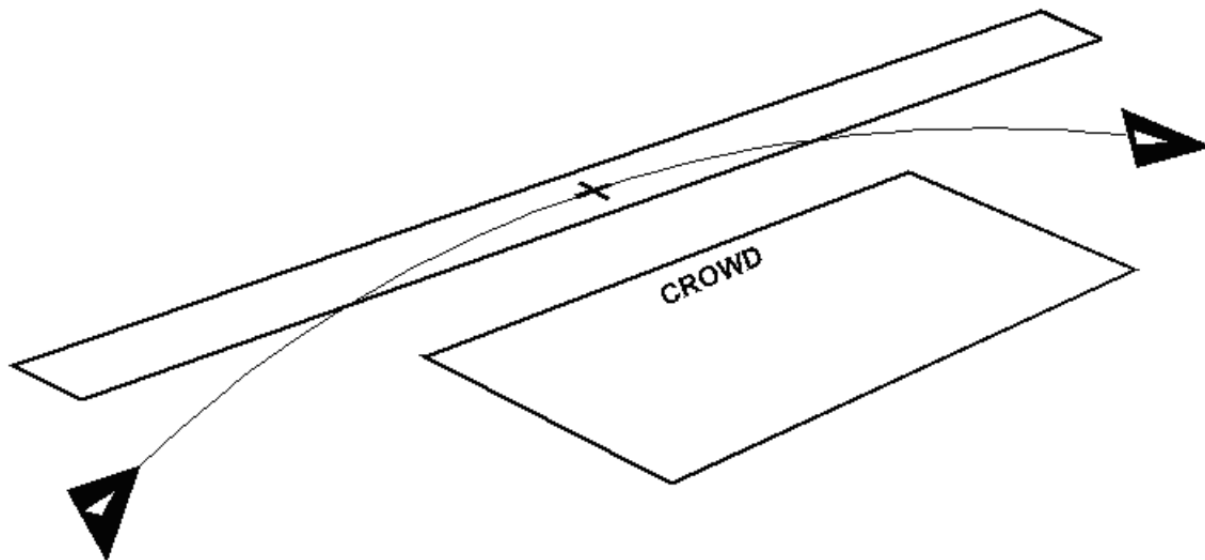


Table 3.11. Photo/High Speed Pass Parameters.

TARGET PARAMETERS			
Altitude AGL	Airspeed KIAS	Power Setting	G
Entry 300'	275	MAX	A/R
Exit 300'	275	MAX	1

PARAMETER LIMITS				
Altitude AGL	Airspeed KIAS MIN/MAX		Power Setting	G
Entry min 100'	200	AC LMT	MAX	N/A
Exit min 100'	200	AC LMT	MAX	N/A

3.17.1. Maneuver Description. The intent of this maneuver is to give the crowd a chance to take a photograph of the T-6. Enter the show at a 45 degree angle to the 500 show line (enter from the crowd side). Fly a level arcing pass so as to arrive at show center no lower than 100 feet AGL and no closer to the crowd than 500 feet. Continue the turn with approximately 60 degrees of bank. Exit the turn on a climbing 45 degree angle opposite of the entry side. An optional high speed photo pass may be flown wings level directly down the 500 foot show line.

3.17.2. Abnormal Procedures . If any altitude/airspeed cannot be achieved or if it appears the aircraft will pass closer than 500 feet to the crown then perform a loaded roll to level flight, wings level climb and continue down the show line.

3.18. Tactical Pitch-Up To Landing.

Figure 3.12. Tactical Pitch-Up To Landing.

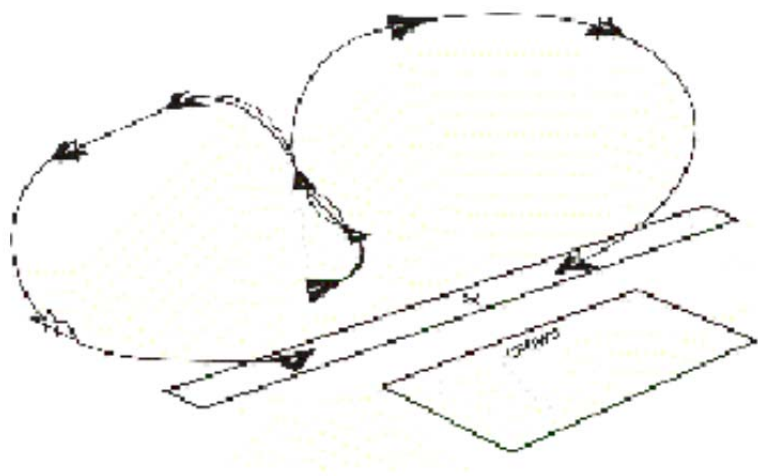


Table 3.12. T-6 Tactical Pitch-Up To Landing Parameters.

TARGET PARAMETERS				
Altitude AGL		Airspeed KIAS		Power Setting
Entry 300'		275		MAX
Pitch-up 300'		275		MAX
Exit A/R		130		A/R

PARAMETER LIMITS				
Altitude AGL		Airspeed KIAS MIN/MAX		Power Setting
Entry min 200'		220	AC LMT	MAX
Pitch-up min 200'		220	N/A	MAX
Exit min A/R		120	N/A	A/R

3.18.1. **Maneuver Description.** Following the Photo/High Speed Pass, roll to 80 to 90 degrees of bank and turn 90 degrees away from the crowd line using 4 to 5 Gs. Once pointed away from the crowd, pull 4 to 5 Gs to 40 degrees nose high to achieve 1,000 feet AGL. At 1,000 feet AGL execute a 270-degree roll and pull toward the perch point of the landing runway. Begin slowing the aircraft and configure for landing with gear, full flaps while descending to the normal perch point altitude. Fly a normal base to final using normal landing techniques and airspeeds.

Option: If a Texan Flight is to be performed immediately following completion of the demonstration, perform a Tactical Pitch-Up to a low approach or wings level pass and proceed to rejoin with Texan Flight aircraft using pre-briefed procedures.

3.18.2. **Abnormal Procedures.** If airspeeds, altitudes, or stall warning indications are experienced with the stick shaker, a Go-Around must be executed to recover the aircraft. Once the Go-Around is completed, the pilot will then turn out to downwind (away from the crowd) and set up for normal straight-in to a full stop.

3.19. Staged Shows. When demonstration aircraft takeoff from other than the air show site, fuel planning must include the fuel required to fly to and from the show site, and any holding time required and include any fuel required if planning to fly a Texan Flight. The pilot will enter the show via the Show Entry maneuver and complete the show as described in this chapter. After the completion of photo pass and clearing the crowd, turn out behind the crowd and return to the staging airport or to the holding point for the Texan Flight rejoin.

Chapter 4

TEXAN FLIGHT CHECKOUT PROCEDURES

4.1. General. This chapter establishes the training guidelines for the Texan Flight program.

4.1.1. Training will be accomplished IAW Texan Flight manual maintained by lead civilian Texan Flight pilot.

4.1.2. Initial and re-currency Texan Flight training will normally be accomplished at the Annual Texan Flight Conference.

4.1.3. The lead civilian Texan Flight pilot will ensure civilian Texan Flight pilots accomplish initial training prior to performing Texan Flights.

4.1.4. Maneuvers will be accomplished IAW the Texan Flight procedures ([Attachment 10](#)). All training will be accomplished in VMC and a ceiling of at least 4,500 feet, 3 miles ground and 5 miles in-flight visibility and a discernible horizon. The low profile ceiling is at least 2,500 feet.

4.1.5. Training will be documented and maintained in demonstration pilot grade book.

4.1.6. 19 AF/CC or his/her designated representative attending the Texan Flight Conference will certify AETC demonstration pilots to perform Texan Flights and approve civilian pilots prior to being added to the Texan Flight approved pilot list.

4.1.7. Current AETC Texan Flight pilots and civilian Texan Flight pilots not able to attend annual re-currency training at the annual Texan Flight conference will accomplish re-currency (minimum of one practice Texan Flight) training prior to performing Texan Flights at an air show.

4.1.8. Demonstration pilots may be certified as 2-ship, 3-ship or 4-ship qualified and will be annotated in the demonstration pilot's grade book.

4.2. Training Syllabus.

4.2.1. If there is no current and qualified demo pilot, an OG/CC selected T-6 IP will monitor training and the upgrade pilot will fly in the FCP. The OG/CC representative will be a highly experienced T-6 IP or current T-6 Demo Team safety observer. For continuity purposes, only one such representative should be used throughout upgrade pilot's Texan Flight training.

4.2.2. TF-GT (Ground Training)

Regulations (FAA/AFI/AETC guidelines)

Texan Flight briefing guide

Formation profiles/combinations

Communications

Join-up

Airspeed compatibility/control

Sight pictures

Formation changes

Flight break-up/landing

Dissimilar emergency procedures

4.2.3. TF-TS-1 (Two-ship; FCP: current demo pilot / RCP: upgrade pilot)

Observation flight

Join-up

Sight picture (lead and wing)

Texan Flight pass profiles

Flight break-up

4.2.4. TF-TS-2 (Two-ship; FCP: upgrade pilot / RCP: current demo pilot)

Vintage aircraft lead/Demo Pilot wing

Join-up

Formation / lead change

(May be combined with TF-TS-3)

4.2.5. TF-TS-3 (Two-ship; FCP: upgrade pilot / RCP: current demo pilot or solo)

19 AF/CC or his designated representative attending the Texan Flight Conference will certify AETC demonstration pilots to perform Texan Flights during this sortie or TF-TS-4.

AETC demo lead / vintage aircraft wing

Join-up

Climb/decent compatibility

Flight break-up

4.2.6. TF-TS-4 (Three-ship; FCP: upgrade pilot / RCP: current demo pilot or solo)

19 AF/CC or his designated representative attending the Texan Flight Conference will certify AETC demonstration pilots to perform Texan Flights during this sortie if not previously certified on TF-TS-3. If the demonstration pilot is already certified there is no requirement for the 19 AF/CC or his designated representative to monitor this sortie.

AETC demo lead / vintage aircraft (x2) wing

Join-up

Formation change (echelon and phantom four)

Flight break-up

4.2.7. TF-TS-4 (Four-Ship) Four-ship flights must be practiced at the air show site before the public performance.

If the demonstration pilot is already certified there is no requirement for the 19 AF/CC or his designated representative to monitor this sortie.

Join-up

Formation / lead change

Flight break-up

4.3. Texan Flight Formations: Texan Flight Formations are covered in Attachment 12.

CHARLES F. WALD, Lt Gen, USAF
DCS/Air and Space Operations

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

The following references contain further policy or procedure guidance in the conduct of aircraft demonstrations.

Part 91, Federal Aviation Regulations

FAA Advisory Circular 91-45C

FAA Order 8700.1, Chapter 49

DoD Directive 5410.18, *Community Relations*

DoD Instruction 5410.19, *Armed Forces Community Relations*

AFI 11-202, Vol. 3 *General Flight Rules*

AFI 11-209, *Air Force Participation in Aerial Events*

AFI 31-101, *Aircraft Systems Security Standards*

AFI 35-201, *Air Force Community Relations*

Abbreviations and Acronyms

AGL —Above Ground Level

EAA —Experimental Aircraft Association

FAA —Federal Aviation Administration

GLO—Ground Liaisons Officer

ICAS—International Council of Air Shows

KIAS —Knots Indicated Air Speed

MIA—Missing In Action

MDS—Mission Design Series

MSL—Mean Sea Level

POW—Prisoner Of War

VMC—Visual Meteorological Conditions

Terms

Abnormal Procedure —Specific abort procedure for maneuver

Crowd Line—A physical barrier or a line marked on the ground which, with added policing, serves as a restraining line. The crowd line is placed at a specified distance from the show line. The barrier must prevent spectators or other nonparticipants from encroaching upon the show line.

ICAS Level II Aerobatics Card —Pilot qualification to perform at 250 feet above ground level.

Qualification by Aerobatic Competency Evaluator (ACE) review, minimum of twelve shows at six sites, at 500 feet and a flight evaluation by ACE.

Show line—A prominent, readily-visible ground reference such as a river, runway, taxiway, canal, breakwater, road, or any straight line that enhances pilot orientation during aerobatic routines.

Attachment 2**SHOW SUMMARY AND CRITIQUE**

A2.1. Example Show Summary and Critique. AETC Single-Ship demonstration teams will use the following example to critique air shows.

T-6 DEMONSTRATION TEAM AIR SHOW SUMMARY AND CRITIQUE

Show Location: Dates(s):

Estimated Cost: Travel: Per Diem: _____ Lodging:

Demos Time/Type: _____/_____; _____/_____; _____/_____
Time (H/L/Cnx) Time (H/L/Cnx) Time (H/L/Cnx)

Total Sorties Required to Support Event: _____

Estimated Attendance Each Day: _____ / _____ / _____

Texan Flight: Yes / No Texan Pilot(s) Name(s) and Acft Type:

Texan Pilot(s) added at show site: Yes / No

Texan Pilot(s) Name(s) and Acft Type added: _____

Other Demo Pilot(s) in Texan Flight: _____

1. Recruiting support/value:

Was recruiter contacted: Yes / No Was recruiter present at air show?: Yes / No

What were the off-show recruiting activities?

- | | | |
|---|-------|-----|
| 2. FAA issues: | UNSAT | SAT |
| 3. Preshow issues: | UNSAT | SAT |
| 4. Air show support and operations | UNSAT | SAT |
| 5. Overall recommendation to attend this event again: | NO | YES |

REMARKS (explain above responses; unsat or no answers require comments):

Attachment 3

NON-STAGED HIGH SHOW T-6 DEMONSTRATION NARRATION

Figure A3.1. T-6 Demonstration Narration. The T-6 narrator will use the following script during the T-6 demonstration.

Introduction

Good afternoon ladies and gentlemen, boys and girls, and future Air Force pilots! On behalf of the Air Education and Training Commands T-6A Texan II Flight Demonstration Team, I would like to add our welcome to the _____ Air show! I'm _____ of the _____, your narrator for today's demonstration of your PREMIERE United States Air Force primary flight trainer--the T-6A TEXAN II!

Arriving at Randolph AFB, TX in May 2000, the Texan II represented a major leap forward in technology. Offering better performance and significant improvements in training effectiveness than the 38 year-old T-37B "Tweet", the Texan II has already begun the challenging task of training tomorrow's Air Force pilots. Powered by an 1100 shaft horsepower Pratt and Whitney PT6A-68 turbo-prop engine with a four-blade propeller, it features a stepped-tandem all-glass cockpit and a zero-zero ejection seat system. The Air Force has begun to steadily replace T-37s with T-6s at all Air Education and Training Command pilot training bases.

AT-6 Info:

The original AT-6 Texan advanced trainer was on of the most widely used aircraft in history. Evolving from the BC-1 basic combat trainer ordered in 1937, over 15,000 Texans were built between 1938 and 1944. Although most went to the US Army Air Corps, some went to the Navy to be known as SNJs. In 1948, Texans still in USAF service were redesignated as T-6 when the AT, BT, and PT aircraft designations were abandoned.

The pilot for today's demonstration is _____ of _____, _____. He is a former _____ pilot and a combat veteran _____. _____ is an experienced instructor pilot in _____ with over _____ flight hours! In today's demonstration, _____ will reach speeds in excess of 300 miles per hour and altitudes up to 5,000 feet above the ground. He will use the Texan II's impressive maneuverability and outstanding climb performance to maximum advantage to perform the same aerobatic maneuvers that all students learn in pilot training.

The airplane that you will see performing today would not be flying if it weren't for our crew chiefs. Our crew chiefs today are _____ of _____, _____ of _____,

and _____ of _____. Today's safety observer is _____, of _____.

Takeoff

Let's get the demonstration underway! To your _____, _____ is running up the fully computerized Pratt and Whitney PT-6A-68 engine, readying his aircraft for a maximum performance takeoff. Because of its excellent thrust-to-weight ratio, the Texan II can take off from runways as short as 4,000 feet and perform an initial climb to 18,000 feet in less than six minutes. Its powerful Pratt and Whitney engine adds more than just power to the Texan II's performance-it is highly efficient and can fly for more than 800 miles on one tank of gas. This aids immensely in training student pilots; the ability to repeat maneuvers over and over again is crucial in the training arena. This endurance makes it an ideal aircraft for the Air Force, the ability to train tomorrow's warriors quickly and efficiently is more important now than ever.

_____ is now repositioning the T-6 for a demonstration of its maneuvering capability. _____ will hit show center at 290 miles per hour and pull the Texan II into vertical climb. He'll then roll the aircraft 360 degrees and perform an Immelman. This maneuver is named after the famous German ace, Max Immelman, and was used by combat pilots to rapidly gain altitude while simultaneously reversing direction. However, unlike the Spads and Fokkers of World War One, which would gain 300 to 400 feet, _____ will gain 4,000 feet of altitude!

Four Point Roll, Level 360

Now, look high and to the right as _____ uses a split-s, a half roll followed by a vertical 180, to position the T-6 for a high-speed pass and four-point roll at show center. Following the roll _____ will perform a level 360-degree turn. As _____ completes the four-point roll he will demonstrate how the T-6A TEXAN II, when properly flown by a well trained pilot, can sustain a turn radius of only 3000 feet! _____ and the T-6 Texan II! _____ is now straining against six times the force of gravity, making his weight for today's demonstration almost 1,200 pounds!

Cuban Eight

_____ is now repositioning his aircraft for a classic aerobatic maneuver, the Cuban Eight. To accomplish this maneuver, he'll pull his aircraft through the vertical, position it 45 degrees nose low and upside down, then roll upright and continue his dive down to 500 feet above the ground. He'll then begin a second five-G pull-up, a maneuver that pulls on his body at some five times the force of gravity and repeat the maneuver in the opposite direction. Now let's watch as _____ flies the Cuban Eight.

Cloverleaf

After his Cuban Eight, _____ will perform a Cloverleaf maneuver demonstrating the T-6s agility. This is a common maneuver used in pilot training to teach students the basics of aircraft handling, situation awareness and basic aircraft control.

This exceptional maneuverability allows us to better train over 1,500 new military pilots each year for their demanding follow on aircraft; the T-38 Talon, the T-1 Jay Hawk, the UH-1 Huey, or the T-44 cross training program with the Navy. At Randolph we are proud to train all of the Instructor pilots for the Air Force's T-6 training bases.

Gear Down Pass

_____ is now positioning his aircraft for final approach. His first landing pattern will demonstrate the T-6's normal landing configuration at its usual final approach airspeed of 100 knots. This slow speed approach will give you a good chance to see the T-6 low and slow. And now from the right/left, _____ and the gear down pass.

Aileron Rolls

_____ is now repositioning the T-6 for a pass down the runway where he'll perform back to back aileron rolls at show center. The T-6 has a basic flight control system, consisting of cables and bellcranks-making it very reliable and able to fly multiple times each day training tomorrow's military pilots.

The 1,100 horses on-board the T-6 give it a huge torque effect. To help compensate for this, an on-board computer senses the torque on the airplane and automatically adjusts the rudder to make it fly more like a jet.

Pull-up for Photo/High Speed Pass

_____ is now repositioning the T-6 to conclude his demonstration with a photo pass! This pass will provide one of the best photo opportunities of today's demonstration! However, you'll need to be ready with your cameras because as _____ approaches show center, he'll be traveling at close to the Texan II's top speed of 316 miles per hour!

Photo/High Speed Pass

Cameras ready for the photo pass!

Tactical Pitch-Up to Landing

Pulling up into a closed traffic pattern, _____ will demonstrate the T-6's ability to land in less than 2-thousand feet of runway. Making that possible are the T-6's large dihedral wings and the four 97-inch propellers. They enable the airplane to land at small airfields never before available to Air Force trainer aircraft

Conclusion

We hope today's demonstration has given you some insight into the capabilities of the T-6 Texan II and the maneuvers that all students learn in pilot training. This airplane was designed to be, and is, a superb training platform. Responsiveness, simplicity, endurance, and comfort in the cockpit enable it to do its important job more efficiently and effectively, giving our country's military the absolute best pilots in the world.

We hope our performance has sparked an interest in the opportunities you can have as a member of the United States Air Force. If interested in joining today's premier aerospace team, please stop by and talk with _____ at the Air Force recruiting booth located _____.

(Note: If no recruiter is available identify a location where the demo team will hand out information)

On behalf of the commander of the Air Education & Training Command, General _____, I hope you have enjoyed this brief look at the T-6 Texan II and the maneuvers that all students learn in pilot

training. _____ and I will be happy to answer any questions you might have about the aircraft, about pilot training, or about your United States Air Force.

Thanks again, ladies and gentlemen, and enjoy the rest of the air show!

NOTE: In the event the pilot aborts a maneuver for any reason, the narrator will point out to the crowd that the maneuver has been aborted and that the pilot is setting up for the next maneuver by flying a wings level pass.

NON-STAGED LOW SHOW

T-6 DEMONSTRATION NARRATION

Figure A3.2. T-6 Demonstration Narration. The T-6 narrator will use the following script during the T-6 demonstration.

Introduction

Good afternoon ladies and gentlemen, boys and girls, and future Air Force pilots! On behalf of the Air Education and Training Commands T-6A Texan II Flight Demonstration Team, I would like to add our welcome to the _____ Air show! I'm _____ of the _____, your narrator for today's demonstration of your PREMIERE United States Air Force primary flight trainer--the T-6A TEXAN II!

Arriving at Randolph AFB, TX in May 2000, the Texan II represented a major leap forward in technology. Offering better performance and significant improvements in training effectiveness than the 38 year-old T-37B "Tweet", the Texan II has already begun the challenging task of training tomorrow's Air Force pilots. Powered by an 1100 shaft horsepower Pratt and Whitney PT6A-68 turbo-prop engine with a four-blade propeller, it features a stepped-tandem all-glass cockpit and a zero-zero ejection seat system. The Air Force has begun to steadily replace T-37s with T-6s at all Air Education and Training Command pilot training bases.

AT-6 Info:

The original AT-6 Texan advanced trainer was on of the most widely used aircraft in history. Evolving from the BC-1 basic combat trainer ordered in 1937, over 15,000 Texans were built between 1938 and 1944. Although most went to the US Army Air Corps, some went to the Navy to be known as SNJs. In 1948, Texans still in USAF service were redesignated as T-6 when the AT, BT, and PT aircraft designations were abandoned.

The pilot for today's demonstration is _____ of _____. He is a former _____ pilot and a combat veteran of _____. Todd is an experienced instructor pilot in the _____ Flying Training Squadron at _____ AFB, _____ with over _____ flight hours! In today's demonstration, _____ will reach speeds in excess of 300 miles per hour and altitudes up to 5,000 feet above the ground. He will use the Texan II's impressive maneuverability and outstanding climb performance to maximum advantage to perform the same aerobatic maneuvers that all students learn in pilot training.

The airplane that you will see performing today would not be flying if it weren't for our crew chiefs. Our crew chiefs today are _____ of _____, _____ of _____,

and _____ of _____. Today's safety observer is _____, of _____.

Takeoff

Let's get the demonstration underway! To your _____, _____ is running up the fully computerized Pratt and Whitney PT-6A-68 engine, readying his aircraft for a maximum performance takeoff. Because of its excellent thrust-to-weight ratio, the Texan II can take off from runways as short as 4,000 feet and perform an initial climb to 18,000 feet in less than six minutes. Its powerful Pratt and Whitney engine adds more than just power to the Texan II's performance-it is highly efficient and can fly for more than 800 miles on one tank of gas. This aids immensely in training student pilots; the ability to repeat maneuvers over and over again is crucial in the training arena. This endurance makes it an ideal aircraft for the Air Force, the ability to train tomorrow's warriors quickly and efficiently is more important now than ever.

Four Point Roll, Level 360

And now look high and to the right as _____ positions his T-6 for a high-speed pass and four-point roll at show center. As _____ completes the roll, he'll immediately transition to a level 360-degree high G turn. As _____ returns to show center he will demonstrate how the T-6A TEXAN II, when properly flown by a well trained pilot, can sustain a turn radius of only 3000 feet. _____ and the T-6 Texan II! _____ is now straining against six times the force of gravity, making his weight for today's demonstration almost 1,200 pounds!

Cloverleaf

After his Cuban Eight, _____ will perform a Cloverleaf maneuver demonstrating the T-6's agility. This is a common maneuver used in pilot training to teach students the basics of aircraft handling, situation awareness and basic aircraft control.

This exceptional maneuverability allows us to better train over 1,500 new military pilots each year for their demanding follow on aircraft; the T-38 Talon, the T-1 Jay Hawk, the UH-1 Huey, or the T-44 cross training program with the Navy. At Randolph we are proud to train all of the Instructor pilots for the Air Force's T-6 training bases.

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training program with the Navy. At Randolph we are proud to train all of the Instructor pilots for the Air Forces T-6 training bases.

1. Gear Down Pass

_____ is now positioning his aircraft for final approach. His first landing pattern will demonstrate the T-6's normal landing configuration at its usual final approach airspeed of 100 knots. This slow speed approach will give you a good chance to see the T-6 low and slow.

And now from the right/left, _____ and the gear down pass.

Aileron Rolls

_____ is now repositioning the T-6 for a pass down the runway where he'll perform back to back aileron rolls at show center. The T-6 has a basic flight control system, consisting of cables and bellcranks-making it very reliable and able to fly multiple times each day training tomorrow's military pilots.

The 1,100 horses on-board the T-6 give it a huge torque effect. To help compensate for this, an on-board computer senses the torque on the airplane and automatically adjusts the rudder to make it fly more like a jet.

Pull-up for Photo/High Speed Pass

_____ is now repositioning the T-6 to conclude his demonstration with a photo pass! This pass will provide one of the best photo opportunities of today's demonstration! However, you'll need to be ready with your cameras because as _____ approaches show center, he'll be traveling at close to the Texan II's top speed of 316 miles per hour!

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Cameras ready for the photo pass!

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Pulling up into a closed traffic pattern, _____ will demonstrate the T-6's ability to land in less than 2-thousand feet of runway. Making that possible are the T-6's large dihedral wings and the four 97-inch propellers. They enable the airplane to land at small airfields never before available to Air Force trainer aircraft

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Thanks again, ladies and gentlemen, and enjoy the rest of the air show!

NOTE: In the event the pilot aborts a maneuver for any reason, the narrator will point out to the crowd that the maneuver has been aborted and that the pilot is setting up for the next maneuver by flying a wings level pass.

STAGED HIGH SHOW

T-6 DEMONSTRATION NARRATION

Figure A3.3. T-6 Demonstration Narration. The T-6 narrator will use the following script during the T-6 demonstration.

Introduction

Good afternoon ladies and gentlemen, boys and girls, and future Air Force pilots! On behalf of the Air Education and Training Commands T-6A Texan II Flight Demonstration Team, I would like to add our welcome to the _____ Air Show! I'm _____ of _____, your narrator for today's demonstration of your PREMIERE United States Air Force primary flight trainer--the T-6A TEXAN II!

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The pilot for today's demonstration is _____ of _____. He is a former _____ pilot and a combat veteran of _____. _____ is an experienced instructor pilot in the _____ Flying Training Squadron at _____ AFB, _____ with over _____ flight hours! In today's demonstration, _____ will reach speeds in excess of 300 miles per hour and altitudes up to 5,000 feet above the ground. He will use the Texan II's impressive maneuverability and outstanding climb performance to maximum advantage to perform the same aerobatic maneuvers that all students learn in pilot training. The airplane that you will see performing today would not be flying if it weren't for our crew chiefs. Our crew chiefs today are _____ of _____, _____ of _____, and _____ of _____. Today's safety observer is _____, of _____.

Show Entry

_____ has already taken off from _____ and will be overhead in just a few moments to begin today's demonstration. Because of its excellent thrust-to-weight ratio, the Texan II can take off from runways as short as 4,000 feet and perform an initial climb to 18,000 feet in less than six minutes. Its powerful Pratt and Whitney engine adds more than just power to the Texan II's performance—it is highly efficient and can fly for more than 800 miles on one tank of gas. This aids immensely in training student pilots; the ability to repeat maneuvers over and over again is crucial in the training arena. This endurance makes it an ideal aircraft for the Air Force, the ability to train tomorrow's warriors quickly and efficiently is more important now than ever.

Ladies and gentlemen, please direct your attention high and to the left/rear as _____ approaches the field to begin today's demonstration. He'll start with a display of the T-6's maneuvering capability by hitting show center at 290 miles per hour and pulling the Texan II into vertical climb. He'll then roll the aircraft 360 degrees and perform an Immelman. This maneuver is named after the famous German ace, Max Immelman, and was used by combat pilots to rapidly gain altitude while simultaneously reversing direction. However, unlike the Spads and Fokkers of World War One, which would gain 300 to 400 feet, Todd will gain 4,000 feet of altitude!

Four Point Roll, Level 360

Now, look high and to the right as _____ uses a split-s, a half roll followed by a vertical 180, to position the T-6 for a high-speed pass and four-point roll at show center. Following the roll _____ will perform a level 360-degree turn. As _____ completes the four-point roll he will demonstrate how the T-6A TEXAN II, when properly flown by a well trained pilot, can sustain a turn radius of only 3000 feet! _____ and the T-6 Texan II! _____ is now straining against six times the force of gravity, making his weight for today's demonstration almost 1,200 pounds!

Cuban Eight

_____ is now repositioning his aircraft for a classic aerobatic maneuver, the Cuban Eight. To accomplish this maneuver, he'll pull his aircraft through the vertical, position it 45 degrees nose low and upside down, then roll upright and continue his dive down to 500 feet above the ground. He'll then begin a second five-G pull-up, a maneuver that pulls on his body at some five times the force of gravity and repeat the maneuver in the opposite direction. Now let's watch as _____ flies the Cuban Eight.

Cloverleaf

After his Cuban Eight, _____ will perform a Cloverleaf maneuver that will demonstrate the T-6s agility. This is a common maneuver used in pilot training to teach students the basics of aircraft handling, situation awareness and basic aircraft control.

This exceptional maneuverability allows us to better train over 1,500 new military pilots each year for their demanding follow on aircraft; the T-38 Talon, the T-1 Jay Hawk, the UH-1 Huey, or the T-44 cross training program with the Navy. At Randolph we are proud to train all of the Instructor pilots for the Air Force's T-6 training bases.

Gear Down Pass

_____ is now positioning his aircraft for final approach. His first landing pattern will demonstrate the T-6's normal landing configuration at its usual final approach airspeed of 100 knots. This slow speed approach will give you a good chance to see the T-6 low and slow. And now from the right/left, _____ and the gear down pass.

Aileron Rolls

_____ is now repositioning the T-6 for a pass down the runway where he'll perform back to back aileron rolls at show center. The T-6 has a basic flight control system, consisting of cables and bellcranks-making it very reliable and able to fly multiple times each day training tomorrow's military pilots.

The 1,100 horses on-board the T-6 give it a huge torque effect. To help compensate for this, an on-board computer senses the torque on the airplane and automatically adjusts the rudder to make it fly more like a jet.

Pull-up for Photo/High Speed Pass

_____ is now repositioning the T-6 for a photo pass before he returns to (airfield name). This pass will provide one of the best photo opportunities of today's demonstration! However, you'll need to be ready with your cameras because as _____ approaches show center, he'll be traveling at close to the Texan II's top speed of 316 miles per hour!

Get your cameras ready; he'll be approaching from the left/right at over 300 miles per hour!

Conclusion

We hope today's demonstration has given you some insight into the capabilities of the T-6 Texan II and the maneuvers that all students learn in pilot training. This airplane was designed to be, and is, a superb training platform. Responsiveness, simplicity, endurance, and comfort in the cockpit enable it to do its important job more efficiently and effectively, giving our country's military the absolute best pilots in the world.

We hope our performance has sparked an interest in the opportunities you can have as a member of the United States Air Force. If interested in joining today's premier aerospace team, please stop by and talk with _____ at the Air Force recruiting booth located _____.

(Note: If no recruiter is available identify a location where the demo team will hand out information)

On behalf of the commander of the Air Education & Training Command, General _____, I hope you have enjoyed this brief look at the T-6 Texan II and the maneuvers that all students learn in pilot training. _____ and I will be happy to answer any questions you might have about the aircraft, about pilot training, or about your United States Air Force.

Thanks again, ladies and gentlemen, and enjoy the rest of the air show!

NOTE: In the event the pilot aborts a maneuver for any reason, the narrator will point out to the crowd that the maneuver has been aborted and that the pilot is setting up for the next maneuver by flying a wings level pass.

STAGED LOW SHOW

T-6 DEMONSTRATION NARRATION

Figure A3.4. T-6 Demonstration Narration. The T-6 narrator will use the following script during the T-6 demonstration.

Introduction

Good afternoon ladies and gentlemen, boys and girls, and future Air Force pilots! On behalf of the Air Education and Training Commands T-6A Texan II Flight Demonstration Team, I would like to add our welcome to the _____ Air Show! I'm _____ of _____, your narrator for today's demonstration of your PREMIERE United States Air Force primary flight trainer--the T-6A TEXAN II!

Arriving at Randolph AFB, TX in May 2000, the Texan II represented a major leap forward in technology. Offering better performance and significant improvements in training effectiveness than the 38 year-old T-37B "Tweet", the Texan II has already begun the challenging task of training tomorrow's Air Force pilots. Powered by an 1100 shaft horsepower Pratt and Whitney PT6A-68 turbo-prop engine with a four-blade propeller, it features a stepped-tandem all-glass cockpit and a zero-zero ejection seat system. The Air Force has begun to steadily replace T-37s with T-6s at all Air Education and Training Command pilot training bases.

AT-6 Info:

The original AT-6 Texan advanced trainer was on of the most widely used aircraft in history. Evolving from the BC-1 basic combat trainer ordered in 1937, over 15,000 Texans were built between 1938 and 1944. Although most went to the US Army Air Corps, some went to the Navy to be known as SNJs. In 1948, Texans still in USAF service were redesignated as T-6 when the AT, BT, and PT aircraft designations were abandoned.

The pilot for today's demonstration is _____ of _____. He is a former _____ pilot and a combat veteran of _____. _____ is an experienced instructor pilot in the _____ Flying Training Squadron at _____ AFB, _____ with over _____ flight hours! In today's demonstration, _____ will reach speeds in excess of 300 miles per hour and altitudes up to 5,000 feet above the ground. He will use the Texan II's impressive maneuverability and outstanding climb performance to maximum advantage to perform the same aerobatic maneuvers that all students learn in pilot training.

The airplane that you will see performing today would not be flying if it weren't for our crew chiefs. Our crew chiefs today are _____ of _____, _____ of _____, and _____ of _____. Today's safety observer is _____, of _____.

Show Entry

_____ has already taken off from _____ and will be overhead in just a few moments to begin today's demonstration. Because of its excellent thrust-to-weight ratio, the Texan II can take off from runways as short as 4,000 feet and perform an initial climb to 18,000 feet in less than six minutes. Its powerful Pratt and Whitney engine adds more than just power to the Texan II's performance—it is highly efficient and can fly for more than 800 miles on one tank of gas. This aids immensely in training student pilots; the ability to repeat maneuvers over and over again is crucial in the training arena. This endurance makes it an ideal aircraft for the Air Force, the ability to train tomorrow's warriors quickly and efficiently is more important now than ever.

Ladies and gentlemen, please direct your attention high and to the left/rear as _____ approaches the field to begin today's demonstration.

Four Point Roll, Level 360

And now look high and to the right as _____ positions his T-6 for a high-speed pass and four-point roll at show center. As _____ completes the roll, he'll immediately transition to a level 360-degree high G turn. As _____ returns to show center he will demonstrate how the T-6A TEXAN II, when properly flown by a well trained pilot, can sustain a turn radius of only 3000 feet. _____ and the T-6 Texan II! _____ is now straining against six times the force of gravity, making his weight for today's demonstration almost 1,200 pounds!

Cloverleaf

After his Cuban Eight, _____ will perform a Cloverleaf maneuver that will demonstrate the T-6's agility. This is a common maneuver used in pilot training to teach students the basics of aircraft handling, situation awareness and basic aircraft control.

This exceptional maneuverability allows us to better train over 1,500 new military pilots each year for their demanding follow on aircraft; the T-38 Talon, the T-1 Jay Hawk, the UH-1 Huey, or the T-44 cross training program with the Navy. At Randolph we are proud to train all of the Instructor pilots for the Air Force's

T-6 training bases.

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1 Gear Down Pass

_____ is now positioning his aircraft for final approach. His first landing pattern will demonstrate the T-6's normal landing configuration at its usual final approach airspeed of 100 knots. This slow speed approach will give you a good chance to see the T-6 low and slow.

And now from the right/left, _____ and the gear down pass.

Aileron Rolls

_____ is now repositioning the T-6 for a pass down the runway where he'll perform back to back aileron rolls at show center. The T-6 has a basic flight control system, consisting of cables and bellcranks-making it very reliable and able to fly multiple times each day training tomorrow's military pilots.

The 1,100 horses on-board the T-6 give it a huge torque effect. To help compensate for this, an on-board computer senses the torque on the airplane and automatically adjusts the rudder to make it fly more like a jet.

Pull-up for Photo/High Speed Pass

_____ is now repositioning the T-6 for a photo pass before he returns to (airfield name). This pass will provide one of the best photo opportunities of today's demonstration! However, you'll need to be ready with your cameras because as _____ approaches show center, he'll be traveling at close to the Texan II's top speed of 316 miles per hour!

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2 Conclusion

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Thanks again, ladies and gentlemen, and enjoy the rest of the air show!

NOTE: In the event the pilot aborts a maneuver for any reason, the narrator will point out to the crowd that the maneuver has been aborted and that the pilot is setting up for the next maneuver by flying a wings level pass.

Attachment 4**TEXAN FLIGHT DISSIMILAR FORMATION BRIEFING GUIDE**

A4.1. Texan Flight dissimilar formation briefing guide. AETC Single-Ship Demonstration pilots and civilian Texan Flight pilots will use the follow briefing guide prior to their performance.

Mission - Dissimilar Formation Flight

Mission Objectives - Safely Exhibit USAF Airpower, Past and Present

Time Hack

Weather/NOTAMS

Mission Data Card

Mission Overview

Preflight -

Environmental Considerations

Sun/Winds/Ceiling

Airfield/Show line Review

Obstacle Clearance Review

FAA Waiver Review

Ground Operations -

Radio Drill/Frequencies

Time Coordination

Start/Check-in/Taxi

Show Boss Coordination

Takeoff -

Takeoff Order

Take off Times

Rejoin -

Initial Radio Contact

Location/Direction of Turn

Altitude/Airspeed/Formation

Holding -

Location

Altitude/Airspeed/Formation

Run-in -

Push Time

Ground Track

Altitude/Airspeed/Formation

Passes -

Altitude/Airspeed/Formation

Direction

Departure -

Exit Time

Direction

Altitude/Airspeed/Formation

Flight split-up

Landing -

Times/Location

Debrief –

When/Location of Debrief

Emergency Procedures -

Breakouts

Lost Wingman

Radio Failure (NORDO)

Engine Failure

Flight Control Problems

Emergency Alternate Airfields

Emergency Escort

Special Interest Items -

Midair Collision Avoidance

Minimum Altitudes

Questions?

Attachment 5

ANNUAL PRESEASON TEAM ASSESSMENT

A5.1. Annual Preseason Team Assessment. Wing commanders will use the following format to submit first year demonstration pilots to AETC/CC for certification.



DEPARTMENT OF THE AIR FORCE
ORGANIZATION
BASE

MEMORANDUM FOR: 19 AF/CC
AETC/CC

FROM: WG/CC

SUBJECT: Annual Preseason Team Assessment and Certification for AETC T-6 Aerial Demonstration Team

1. I have completed the annual preseason team assessment of the AETC T-6 Aerial Demonstration Team for the (year) air show season and find that the team is fully qualified and prepared to represent the United States Air Force and Air Education and Training Command. Here is a synopsis of the team members and their experience.

Pilot

Experience

Narrators

Experience

Ground Safety Observers

Experience

Crew Chiefs**Experience**

2. Please call me at (DSN) if you need further information.

Wing Commander Signature Block

**cc: AETC/DO
HQ 19 AF/CCO**

Attachment 6**PROFILE GRADE SHEET**

A6.1. Demonstration Maneuver Parameters and Sample Grade Sheet. Demonstration pilots will use the following grade sheet to evaluate their performance. Safety observers/OG reps should enter airspeed call outs if known and assign grades.

Table A6.1. T-6 – Demonstration Maneuver Grade Sheet.

Field Elev.	_____	<u>Reviewer</u>	<u>Name</u>	<u>Date</u>
Location	_____	Demo Pilot	_____	
Date	_____	Safety	_____	
		Observer	_____	
High/Low Show	_____	OG Rep	_____	
Training Sortie #	_____			

Maneuver	Planned Alt (AGL)	Minimum Alt (AGL)	Actual Alt (AGL)	Minimum A/S	Actual A/S	Remarks	Grade 0-5
Show Entry *	500	400		250			
Show Entry Exit *	4500*	3500*		80		A/S prior to nose down	
Split S*	3500	3000		150 max			
4-point Roll	500	400		220			
Level 350 Turn	500	400		200			
Reposition	500	400		120			
Low Angle Pass**	300	200		175			
Cuban 8 Entry *	500*	400*		230			
Cuban 8 Apex *	3500*	2500*		100		A/S Inverted over the top	
Cuban 8 Roll-out *	3000*	2000*		N/A			
Cuban 8 Entry (2nd leaf) *	500*	400*		230			
Cuban 8 Apex (2nd) *	3500*	2500*		100		A/S Inverted at top	
Cuban 8 Roll-out (2nd) *	3000*	2000*		N/A			
Cuban 8 Exit *	500*	400*		N/A			
Cloverleaf Entry	500	400		230			
Cloverleaf Apex	2500	2000		120			
Gear-Down Pass	200	100		80			
Double Aileron Roll	500	400		220			
High Speed Reposition	500	400		120			
Photo/Banana Pass	300	100		200			
Tactical Pitch-Up to Landing	300	200		120			

ADDITIONAL
REMARKS:

* High Show only

** Low Show only

Attachment 7**AERIAL SITE SURVEY**

A7.1. Aerial Site Survey. Pilots will accomplish the following site survey actions in preparation for aerial demonstration.

Preflight:

Review airfield diagram (photo if possible) to include runways, taxiways, barriers, show line, crowd line, field elevation, and obstacles (such as towers, mountains, rising terrain, buildings, etc.)

- Analyze weather patterns, sun angle/elevation, mountain shadows, for impact on flight profile.
- Obtain local no-fly restrictions, noise abatement, and bird procedures.
- Review FAA waiver for applicable details, airspace (up to 2 nm radius and 4,500 feet)
- Identify control agencies such as on-site tower/local radar (TRACON) traffic control

Survey Flight:

- Circle show site, fly show line, look for maneuver reference points, and obstacles.
- If practical, accomplish aerial survey flight at same time of day as planned aerial demo.
- Observe holding points (for staged shows and Texan Flights)

Attachment 8

DEMO FLIGHT BRIEFING

A8.1. Demo Flight Briefing. Pilots will accomplish following flight briefing actions in preparation for aerial demonstrations.

- Demo pilot will attend FAA mass briefing

- As a minimum, review the following with ground safety observer:
 - Time hack
 - EP of the Day
 - WX/NOTAMS
 - Mission overview
 - Mission data card
 - Airfield diagram and show layout
 - Review site survey data
 - Accomplish following non-briefing items prior to flight.

- Ground procedures
 - Start, taxi, marshalling
 - Spare procedures

- Takeoff
 - Runway lineup
 - Minimum fuel
 - Abort procedures
 - Low altitude ejection
 - Land immediately after T/O

- Aerial Demonstration
 - Staged vs. Non-Staged
 - Primary show (HI):

- Maneuvers
 - Individual maneuver parameters
 - Mandatory parameter radio calls
 - WX transition (HI/LO) points
 - Alternate show (LO):
 - Maneuvers
 - Individual maneuver parameters
 - Mandatory parameter radio calls
 - WX transition (HI/LO) points
 - Abnormal procedures:
 - Maneuver abort and reposition
 - Emergencies
 - Ground safety observer termination procedure calls/procedures
 - Texan Flight (refer to [Attachment 4](#))
- Recovery
 - Pattern and Landing
 - After landing/de-arm
 - Emergency/alternate airfields
- Debrief
 - When/where
- Set aside time to mentally prepare for demo

Attachment 9**FIRST YEAR DEMONSTRATION PILOT CERTIFICATION CHECKLIST**

A9.1. First Year Demo Pilot Certification Checklist. The following actions will be taken prior to AETC/CC certification: (NLT times provide guidance and are not mandatory)

_____ 1. Aug: WG/CC will:

_____ a. Designate new demonstration pilots.

_____ b. Inform AETC/CCO of selections.

_____ 2. Sept: OG/CC will:

_____ a. Ensure demonstration pilots have entered training.

_____ b. NLT 30 Oct - Inform AETC/DOO of planned 19 AF/CC and WG/CC certification dates.

_____ 3. 15 Nov: AETC/DOO forward SSS to AETC/CC to obtain approval of certification schedule.

_____ a. Names of pilots that will need certification.

_____ b. General method of certification (individually, two at a time, etc)

_____ c. Dates for certification.

NOTE: AETC/CC certification date initiates certification countdown for individual pilots

_____ 4. AETC/CCO inform WG/CC of planned certification dates.

_____ 5. NLT Cert – 30 days: WG/CC approve demonstration pilot and forward grade book to 19 AF/CC

_____ 5. NLT Cert – 15 days: 19 AF/CC approve demonstration pilot and WG/CC forward grade book to AETC/DOO

_____ 7. NLT Cert – 14 days: OG submits airspace waiver.

_____8. NLT Cert – 7 days: WG/CCP coordinates:

- _____a. With airfield manager for AETC/CC observation location.
- _____b. With comm. squadron for PA system at AETC/CC observation location.
- _____c. Transportation for demo team and unit leadership if required

_____9. NLT Cert – 2 days:

- _____a. AETC/DOO prepare IOI for DO to include: Demo team arrival and departure times; unit leadership arrival and departure times; practice, certification, and backup times; demo pilot meeting time with AETC/CC; other significant information.
- _____b. AETC/DOO forward demonstration pilot grade book to DO.
- _____c. AETC/DOOA checks with WG/CCP to ensure support arranged.

_____10. Demonstration team arrival: AETC/DOO representative meets team at Base Ops.

_____11. Cert – 2 hrs: WG/CCP ensures setup of AETC/CC observation location.

_____12. Cert + 1 day.: AETC/DOO prepares letter to FAA (AFS 800) to inform them of AETC Demonstration Pilot approved to perform single-ship demonstrations.

NOTES:

1. AETC/DOO will update letter to FAA to inform them of AETC Demonstration pilots approved to fly Texan Flight profiles if training is accomplished well after AETC/CC certification.
2. AETC/DOO will update letter to FAA to inform them of additional pilots certified to perform single-ship demonstrations.

Attachment 10

TEXAM FLIGHT MANEUVERS

A10.1. These are the basic maneuvers that will be used to perform Texan Flights.

Figure A10.1. Hold and Rejoin.

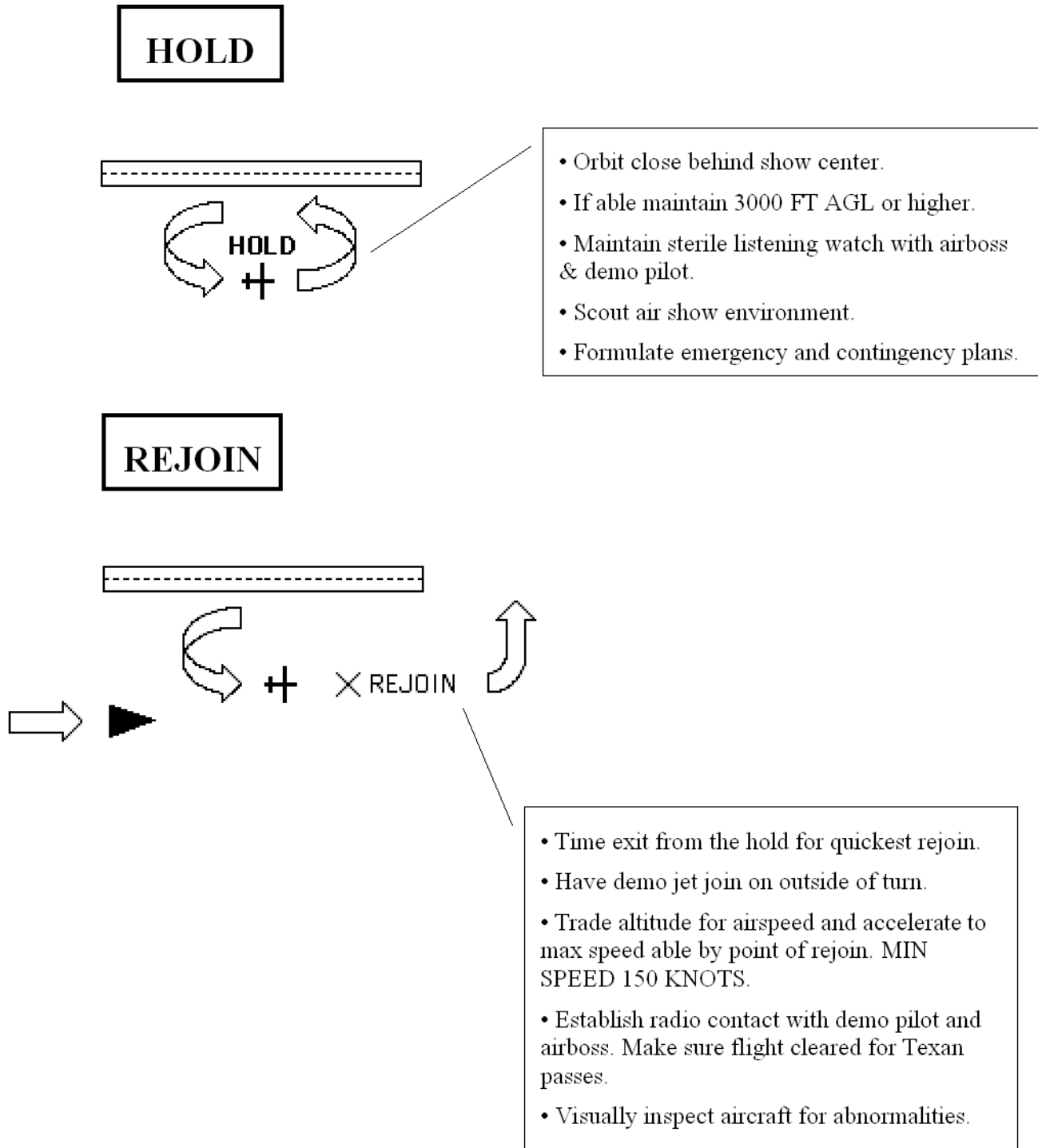


Figure A10.2. Banana Pass:

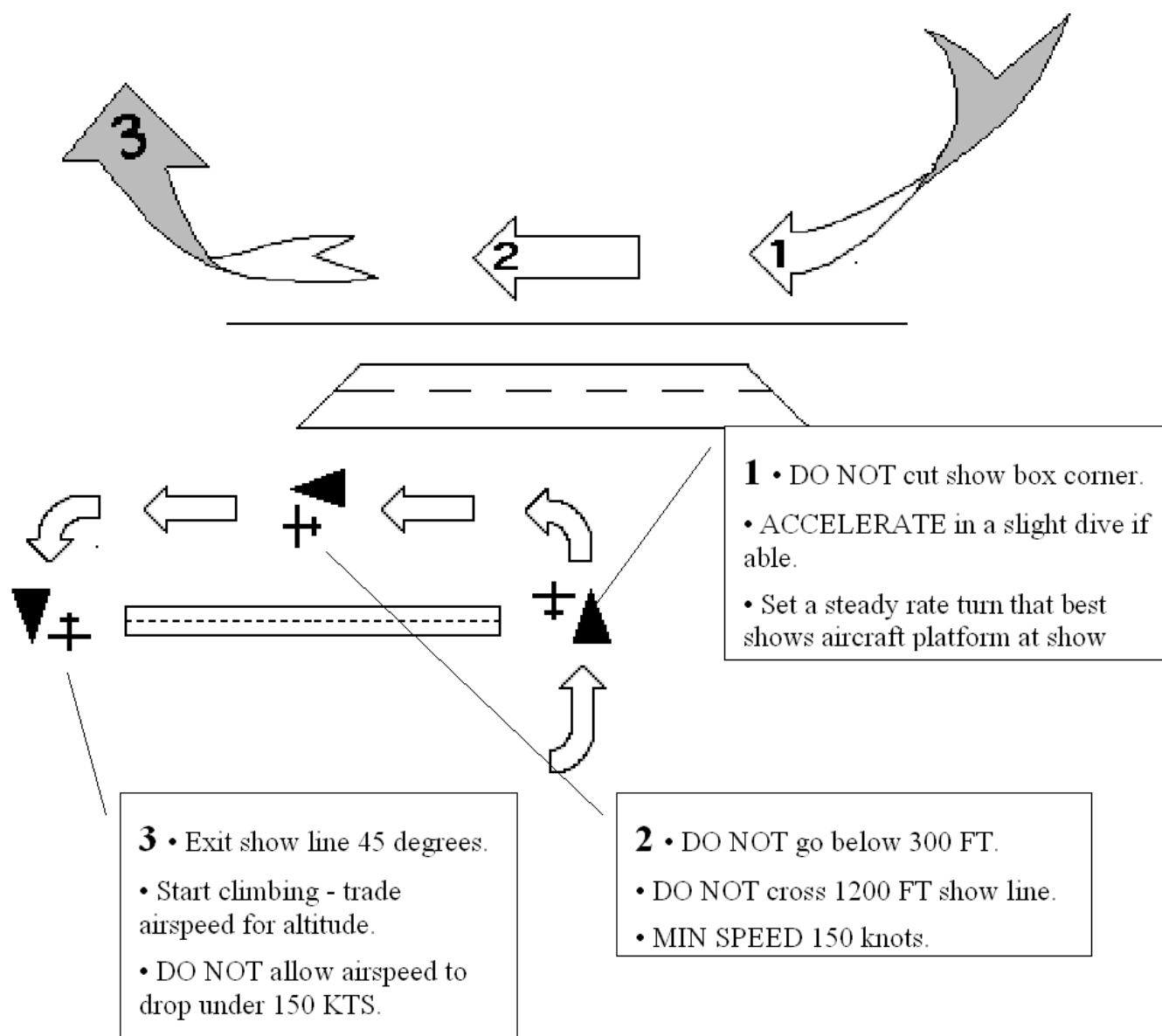


Figure A10.3. Reposition and Flat Pass.

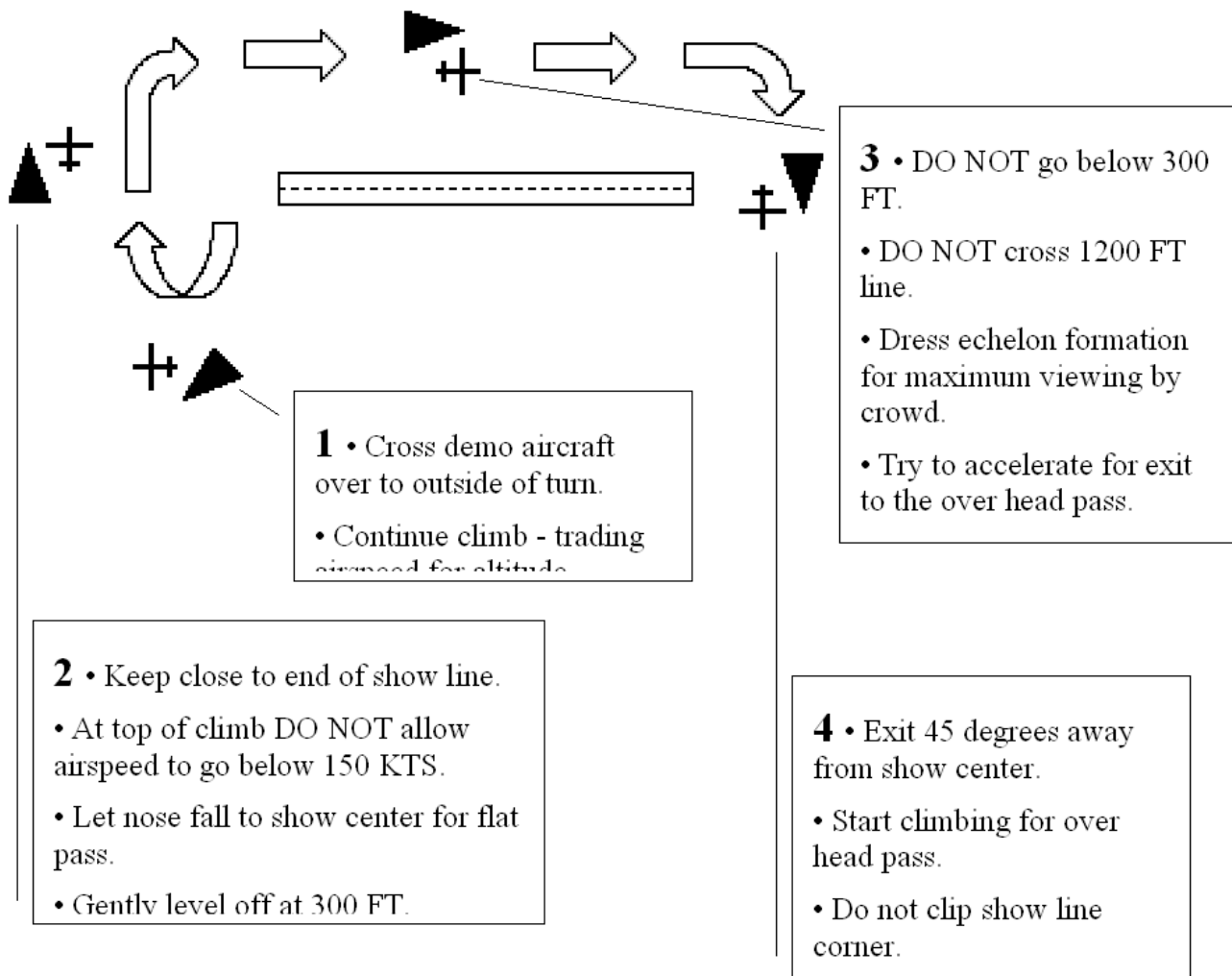


Figure A10.4. Overhead Break to Land.

